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ABSTRACT

Since the beginning of the 1990s, the University of Botswana has embarked on a series of organizational change strategies. In 1998-1990, the University engaged an external Review Commission to undertake a comprehensive institutional analysis, and, at about the same time, the University acquired a computerized administrative information system with complementary technology. In late 1991, a strategic planning process was initiated, and later, a comprehensive "root and branch" exercise was conducted to articulate a new organizational structure. This case study provides an account of these three initiatives, evaluates the experiences of those involved, and makes suggestions that may be useful to other institutions in the process of organizational change. Findings highlight the difficulties in implementing a new computer-based information system and demonstrate the unexpected consequences that seemingly unrelated decisions can have. The key success story of the case study was the ability of the University to harness the talents of various individuals through project teams, task forces, and working groups, complemented by an appropriate use of external forces. (SLD)

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Improving the managerial effectiveness of higher education institutions

Strategic planning, information systems and organizational development at the University of Botswana

Richard Neill and Thabo Mokoena

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Strategic planning, information systems and organizational development

A case study of the University of Botswana

Edited by
Richard Neill and Thabo Mokoena

Paris 1999

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Summary Overview

Since the beginning of the 1990s the University of Botswana (UB) has embarked on a series of organizational change strategies. In a 21-month period; from April 1989 to January 1992; the University launched three separate initiatives to revitalize the Institution and to ensure that it was ready to meet the future needs and aspirations of Botswana. In 1989/90 the University engaged an external Review Commission to undertake a comprehensive institutional analysis. At about the same time the University acquired a computerized administrative information system with complementary technology. In late 1991 through a Strategic Planning Workshop a strategic planning process was initiated, while a few months later, as a direct outcome of the Review Commission, a comprehensive 'root and branch' exercise to articulate a new organizational structure was commenced. This case study seeks to provide an account of these three initiatives, to provide an evaluation of the experiences of those involved, and to make suggestions that will be of assistance to other institutions that decide to embark on a similar programme of organizational change. Both authors, Richard Neill and Thabo Mokoena, were closely involved throughout the entire period with each of the three initiatives. Although they both held various positions of responsibility within the Institution (Dean, Departmental Head, Senate Sub-Committee chair) their role within the context of this case study has essentially been as internal agents of change. Accordingly they provide a unique and informed perspective of the programme of transformation undertaken by the University.

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Section I
Background

The roots of the University of Botswana can be traced back to the establishment, in 1946, of the Pius XII College in Lesotho. Conceived as a response to apartheid policies, which inhibited the admission of African students to many South African campuses, Pius XII provided an essential alternative route to higher education for Southern African students, including those from what is now known as Botswana. In 1963 the college became the University of Basutoland, Bechuanaland and Swaziland, and continued as a regional university serving the three countries of Lesotho, Botswana and Swaziland for nearly two decades. In 1980 moves were made to create separate national universities for Botswana and Swaziland, Lesotho having previously established its own national university in 1975, and on 1 July 1982, the University of Botswana came into being.

As Botswana's only institution of higher learning the University has clearly been central to the development of the country's higher education system and during the intervening period, since its inauguration, the development of the University of Botswana has been spectacular. At the beginning of the 1990s the University's development plan characterized the Institution's impressive expansion in the following terms:

> *"This [the expansion] is evident from the significant increase registered in student intake and the faculty size; the enlarged number and multiplicity of new instructional programmes mounted; the strengthening of support services; the increasing number and greater variety of research and consultancy services undertaken and the record of publications. All this has been matched by a spurt in the development*

of physical facilities and in the acquisition of equipment and other materials for teaching, research and administration".[1]

Notwithstanding its relative youth when measured against older established institutions, the University of Botswana has already gained a proud reputation for innovation and excellence. By the conclusion of the 1996/97-plan period the University had achieved a student enrolment of approximately 10,000, including those students based at the main campus in Gaborone as well as responsibility for the students attending its affiliated institutions and on short and part-time courses. An academic staff establishment exceeding 500 ensures that its teaching and research extends over a broad range of subject disciplines grouped into six Faculties – Humanities, Education, Social Science, Science, Business and Engineering. This is complemented by a number of separate academic departments performing research, consultancy and continuing education functions, all supported by a range of academic and administrative service units.

Notwithstanding the University's achievements, since the late 1980s, the Institution has engaged in a virtually non-stop debate about its role and functions. In particular during the 1990s the University expended considerable energy in seeking answers to the following questions:

- What are we doing now, and why?
- What should we be doing in the future, and how?

It is no doubt a preoccupation with these questions that has distinguished the University of Botswana from comparable institutions in Africa during the past decade. Possibly the other key difference is that unlike the majority of Africa's universities, the University of Botswana has, since its establishment in 1982, enjoyed uninterrupted prosperity and relative affluence. Within this favourable environment, the Institution has achieved a good reputation and has become acknowledged as a regional and sub-continental centre of excellence in certain academic disciplines.

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[1] University of Botswana Development Plan 1991/92 – 1996/97, NDPVII. University of Botswana, Gaborone, 1991, p. ii.

Yet propitious economic circumstances notwithstanding, as previously mentioned, from the late 1980s there gradually emerged an appreciation of the need to develop new approaches to the management and administration of the Institution. The principal motive force in this direction has been the ever-increasing social demand by an increasingly educated and growing population for enrolment into the University. The University's senior management realized that this pressure could translate into a future requirement for considerably more to be done with considerably less. At that time, the late 1980s, it also appeared that the diamond-based national economy that had provided Botswana with its relative prosperity had the potential for decline. The experiences of formerly well-endowed African universities led to an acknowledgement that the University of Botswana could just as easily be crippled by a disintegration of its fiscal base.

These two factors impelled the rapidly expanding University of Botswana, at the end of the 1980s and the beginning of the 1990s, to embark on a series of strategies for change aimed at ensuring an enhanced management capacity and capability. The intention was to provide a better service to its current clientele and stakeholders and to enable the institution confidently to face and to confront the challenges of the future.

In a 21-month period from April 1989 to January 1992, the University launched the following initiatives:

- in 1989/90, appointed an external Review Commission to undertake a comprehensive examination and analysis of its operations with a prime focus on the ways to reorganize the academic, administrative and management structures in order to allow the Institution to cope with its projected rapid growth and expansion;

- in 1990, acquired a computerized information system with complementary technology to improve efficiency and to ensure a tighter control of administrative operations and institutional resources;
- in late 1991, through a Strategic Planning Workshop, initiated a strategic planning process that was intended to make the Institution more proactive, innovative, and forward thinking in its medium- and long-term planning;
- in early 1992, as a direct outcome of the Report of the Review Commission[2], inaugurated, through the establishment of a Task Force, a comprehensive, 'root and branch' exercise to articulate and set in place a new organizational structure for its management and administration.

These initiatives constituted an exciting and challenging agenda for change on the part of the University's senior management. They also provided a formidable task for the various support teams, task forces and working groups that were set up to work towards their realization. As of mid-1997, the strategic planning initiative had delivered a number of key benefits, most importantly a new mission statement and a complementary set of strategic objectives. The Task Force had provided a detailed blueprint for the reorganization of the administration. The setting in place of the computerized networked information system has started to ensure a tighter control of the University's administrative information resources and the creation of more consistent and reliable data. That said, the initiatives have yet to be brought to a conclusion and the Institution's ambitions for organizational change are therefore still to be fully realized.

This case study focuses on the inauguration and initial implementation of the computerized information system during the 1990-1992 period and links it to the process of reorganizing the University's management and

[2] University of Botswana, *Report of the University of Botswana Review Commission.* University of Botswana, Gaborone, January 1991.

administrative structure and the separate process of strategic planning. The study begins with an account, first, of the strategic planning exercise, followed by the initial work undertaken on implementing the computerized information system. This latter section identifies the process steps that the University undertook, and outlines the reasons for the failure to sustain the momentum and enthusiasm that characterized the early stages of the project. The remainder of the case study then deals with the process of organizational restructuring that commenced with the Review Commission and found substance in the work of the Task Force. The case study concludes with a number of suggestions for those institutions that may wish to go down a similar path of organizational change. The sequence of the case study (Strategic Planning, Information Systems implementation, Restructuring) broadly corresponds to the chronology of events as they actually happened but does not necessarily provide the logical structure reflecting the sequence which should have taken place.

Section II
Problem definition and objectives

The necessity to revitalize the higher education system in Africa, particularly at university level, has emerged during the 1990s as an issue of critical priority. Institutions that had once been vibrant and relevant centres of academic excellence have, in the last two decades, been reduced to a state of academic penury and financial insolvency. To a significant extent, this degradation has been attributable to the economic crisis that has bedevilled many African states and caused them to be subjected to economic 'structural adjustment'.

The crisis that currently confronts many of Africa's tertiary institutions has been complemented by a growing realization that the ability of the university sector to make a meaningful contribution to the development agenda, and to solve Africa's seemingly long-term problems, has become increasingly impaired. In a 1991 study prepared by Trevor Coombe on behalf of the Ford Foundation the case was dramatically put in the following terms:

> *"One of the abiding impressions of this consultation is the sense of loss, amounting almost to grief, of some of the most senior professors in the older African universities as they compare the present state of their universities with the vigor, optimism and pride which the same institutions displayed twenty or thirty years ago. It is not just the universal regret of age at the passing of youth, nor the awareness that a generation of unique academic pioneers has almost run its course. It is also the grim knowledge that the nature of the university experience today is profoundly different for many teachers and students, so*

> *different and so inferior that some wonder whether it can rightly be called a university experience at all".*[3]

The condition of Africa's universities has raised considerable concern particularly amongst the donor community, encouraging it to launch during the early 1990s a series of initiatives to rescue the continent's university system from final collapse. To this end a number of studies were undertaken (Blair, 1991[4]; Mwiria, 1992[5]) which made suggestions as to how to address the various problems currently being faced by Africa's universities. During the course of these studies a number of problems were clearly identified and a range of solutions proffered. The major areas which were recognized as requiring urgent attention were – governance; management; finance; academic resources; academic priorities and plans; student resources and services; staff development; information technology and information systems.

Of specific concern to this case study, and a significant contributor to the decline of Africa's universities, has been their enduring attachment to increasingly obsolescent management and administration practices which are a legacy of an inherited academic culture. This alien culture of university management and administration has naturally and progressively fallen out of step with the socio-economic reality of its environment. It has, however, maintained a stubborn grip on African universities and prohibited any real attempt to rescue them from decline. Fortunately, many of Africa's more progressive vice-chancellors have realized that the future of their institutions

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3. Coombe, T. *A consultation on higher education in Africa.* Ford Foundation and Rockefeller Foundation, New York, 1991, p.2.
4. Blair, R. D. *An assessment of progress and the potential for financial diversification and income generation at selected African Universities.* The World Bank, Washington, D.C., 1991.
5. Mwiria, K. *The role of good governance in resolving internal and external university conflicts. The experience of Anglophone Africa.* The World Bank, Washington, D.C., 1992.

rests on the adoption of a radically different and more proactive management orientation which has usually found concrete form in the expression *strategic planning*. An important and recent element of this new managerial vision has been the recognition and acceptance of the crucial role that information technology plays in decision-making processes. It has become increasingly accepted that computerized information systems can contribute significantly to the achievement of organizational efficiency, effectiveness and transformation.

Although a growing number of Africa's senior university managements have recognized the importance of installing and establishing information systems, few seem to have realized that there is an essential link between the introduction and implementation of such systems, the overall strategy of the institution, and the need to modify their organizational structures. In any organizational context, the inevitable consequence of introducing a computerized information system is to move the information required for decision-making down through the organization, thence opening up opportunities for a flatter administrative hierarchy, streamlining and speeding up the decision-making processes, and thereby empowering staff by creating a more intelligent, efficient, effective and productive workforce. For these benefits to be realized, it is almost inevitable that there should occur major internal change in the form of a redesign of the entire organizational structure. The need to link the introduction of an information system with organizational change represents the key challenge that confronts any organization contemplating an optimal implementation of such a system. Unfortunately many of Africa's universities have been unable to deploy the management skills required to undertake such a fundamental and challenging enterprise. This was certainly the case with the University of Botswana, which found the challenge of transforming its management structure and computerizing its administrative information resource, to be quite formidable. This case study seeks to identify the key tasks and critical issues that have to be addressed in terms of organizational development if maximum benefits are to be derived from computerizing an institution's administrative information resource. Drawing upon these experiences the case study concludes with a number of suggestions for universities that are considering institution-wide change of the type and scale attempted by the University of Botswana.

Section III

Towards strategic planning

In the early years before its formal inauguration as a university in 1982, and while it was still part of the Botswana, Lesotho, and Swaziland University structure (UBLS), planning was centrally controlled from the Lesotho campus at Roma. The first overt step that the new University of Botswana took in the direction of addressing the obligation to rationalize its academic planning structures and procedures was the establishment in 1982 of the Senate Regulations Review Committee (RRC). This measure arose as a result of the Senate's long-standing inability at its special examination meetings to make consistent sense of the recommendations emerging from Faculty Boards. These regulations were an eclectic mix, reflective of the rapid – and centrally unmonitored – changes that had taken place in the academic programmes as the Institution had grown in size, and were no doubt the natural consequence of being a constituent part of what had formerly been a tripartite university system.

The decision to establish the RRC as a body to review and rationalize the disparate Faculty and Departmental regulations governing student enrolment, progression and graduation was not conceived (or perceived by those involved) at the time as a conscious and deliberate initiation of a move towards developing a strategic grand design for the Institution. In retrospect however, the significance of the establishment of the RRC was that its activities and operations marked the first time that the entirety of the academic community found itself obliged to take a long sober look at what it was doing and why, insofar as those questions found expression in academic regulations.

A telling 'spin-off' from this particular institutional review was the establishment in 1986 of the Academic Planning Committee of Senate. Surprisingly no academic planning committee had existed previously, possibly because the University was small and co-ordination of action and activity across the academic area appeared to be relatively simple. The creation of the RRC soon highlighted the flaws in such an approach to planning. The RRC, having completely overhauled all the existing academic regulations and being made the Senate standing committee for formulating regulations for new academic programmes, increasingly found itself being regarded by the Institution as a whole as the appropriate body to pronounce on the policy and planning aspects of academic programmes. Members of the RRC found this inappropriate and in excess of the original mandate of the Committee and recommended strongly that an Academic Planning Committee of Senate be set up to address the strategic rather than the operational aspects of academic policy and planning.

The creation of the Academic Planning Committee should have allowed the University its first opportunity to deal in a rational way with planning in the academic area. However, close scrutiny of the terms of reference revealed that, with the exception of the Committee name, no explicit mention of the word 'planning' was actually included. The effects of this oversight became steadily more apparent as the Committee went about its work. By 1989, it had become clear that the Academic Planning Committee principally functioned as some hybrid of a Faculty and a mini-Senate, and rarely dealt in a proper way with the function of academic planning.

In terms of external influences on the University's attitude to planning, the late 1980s was the period when the Ministry of Finance and Development Planning had begun to give notice that the days of affluence could be coming to an end and that Botswana (and by extension the University) should prepare itself for difficult times ahead. For the University, this suggested the likelihood that it would be required to mobilize additional resources through income-generating activities as well as cost savings through improved internal efficiency. Although these considerations were not formally placed on the agenda of the Academic Planning Committee, the fact is that they were raised at meetings of a separate committee that was preparing the University Plan (University National Development Plan 7-NDP7 Planning Committee), as well as in the Estimates and Finance Committees. Fortunately, through a series of cross-membership between these committees, the external warnings of a need to be prudent, started to penetrate the deliberations of the Academic Planning Committee.

Thus it was that in April 1989, the Academic Planning Committee decided to review its statutory role and functions in order to ensure that in future greater emphasis be given to what the Vice-Chancellor of the time termed *strategic planning*. As a contribution to that review, Havard-Williams and Neill produced a paper 'Information: a tool for academic planning'[6] which indicated that there was a dearth of accurate information on various aspects of the University's activities. Consideration of this paper resulted in the establishment by the Academic Planning Committee of a small *ad hoc* working group that was asked to take a closer look at the information needs and requirements of the Institution. One of the outcomes of the work of that group was the establishment of an inventory of the strategic information resources of the University as they related to the planning and management of its academic programmes. In early 1991, for example, the working group produced a report 'Preliminary Guidelines on NDP7 Staff Projections'[7] which had a major impact on the annual budget estimate exercises and which laid the foundation for the allocation of staff by the University which is still in place today. Another outcome of the attention that was paid to strengthening

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6. Havard-Williams, P. and Neill, J.R. *Information: a tool for academic planning*, a paper prepared for the Academic Planning Committee of the University of Botswana. University of Botswana, Gaborone, 1989.
7. University of Botswana. Academic Planning Sub-Committee on data. *Report on NDP7 staff projections*, 1990.

the institutional knowledge base was the acquisition of a computerized information system, the implementation of which is dealt with subsequently in this case study.

Nonetheless information is but one ingredient in the planning process and it was quickly appreciated by the Academic Planning Committee that it was imperative that it re-focus its attention on the topic which had led to the original April 1989 discussion – strategic planning. Discussions within the Committee on how the University planning process could be improved during the then current plan period (1991-1997) with a view to setting in place a more refined planning model for subsequent plans (1997 onwards) led to the decision to organize a workshop on strategic planning.

The Academic Planning Committee saw the Strategic Planning Workshop as representing the first major milestone in the University's planning initiatives during NDP7. The aim of the workshop was to enhance planning capability within the University and it was envisaged that the specific outputs would be:

- the design of a planning process for the University;
- the outline of an approach to the preparation of the NDP7 mid-term review exercise;
- the development of a draft outline of the NDP8 University Plan.

As we shall see, the outcomes were not as tangible as had been originally envisaged but possibly in the long term were of fundamental importance.

The Strategic Planning Workshop took place in November 1991 and was divided into two sessions. The first 'The context of strategic planning at the University of Botswana' focused on specific strategic planning issued through a series of internally and externally commissioned papers. The second part of the workshop 'Developing the strategic planning model' was devoted to the formulation of a series of documents that would outline an institutional planning process for the University, which would provide a planning template for the future. University participants were members of the Academic Planning Committee, and all of the senior management and administrative staff of the University, joined by invited senior-level participants from the Ministry of Finance and Development Planning, the Ministry of Education, the Botswana Polytechnic, and the Universities of Ohio, Manchester, Manitoba and Zimbabwe.

Papers presented during the workshop looked ahead to a future that would be characterized by change, threat, uncertainty, unpredictability, challenge and opportunity. From an external perspective it seemed that the demands likely to be placed on the University included:

- the requirement to create an institutional planning horizon of 25 years;
- the need for improvement of the Institution's operational efficiency, for an increase in its productivity, and for an enhanced capacity to market its goods and services;
- maintenance and enhancement of the quality of its products – students, research and scholarship, service – with a less generous resource base than in the 1980s;
- structural changes in the secondary school system, coupled with radical changes in the mode of financing of higher education which would require an equally radical change of mindset from the University;
- the change of the role of the University in an increasingly market-oriented economy dominated by the private sector.

The internally commissioned papers looked at the strengths and weaknesses of the University's planning capacity and capability:

- from an historical perspective but looking ahead to its eventual integration into a higher education planning system;
- from a strategic management point of view focusing on the implementation of past, current, and future university plans;

- from an information mapping viewpoint outlining the kinds of information the University should have at its disposal regarding students, staff, curriculum and resources;
- from a resource development planning perspective emphasizing the need for an integrated and co-ordinated planning process linking academic, physical and fiscal planning firmly based on a comprehensive institutional database.

The internally commissioned paper, which is of particular interest in relation to this case study prepared by Mokoena and Youngman, provided a detailed analysis of the University's previous planning efforts and, by implication, an insightful critique of its management practices and information systems.[8] The paper explicitly adopted a strategic management approach to its review and assessment and was one of the earliest attempts within the Institution to use strategic concepts and ideas. The methodology and terminology used were in stark contrast to the regular language used at the time in the University's planning circles, which no doubt accounts for the surprise with which it was received by many of the workshop participants. The paper summarized planning in the University in the following way.

Box 1

Strategic planning assessment of UB implementation of Plans (covering the period 1982-1991) adapted from Mokoena and Youngman

1. **Plan formulation**

- Minimal review of previous plans.
- No serious analysis of UB and its external environment.

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[8] Mokoena, T.T. and Youngman, F. *Implementation of the University of Botswana Plan 1985/86 – 1990/91 and implications for 1991/92 – 1996/97 Plan*, paper presented at a workshop 'Planning for NDP7: Strategic Planning for the University of Botswana. University of Botswana, Gaborone, 1991.

Box 1. Continued

- Weak formal/structural linkages to bodies outside UB.
- Restricted involvement of 'lay' staff – especially nationals; no general understanding or awareness of planning and the need for it.
- Lack of clear UB mission statement.
- Plan goals stated but no identification of priorities.

2. **Plan implementation Structures**

- No central, standing UB body with explicit responsibility for co-ordination and monitoring of plan implementation, – weak role of Academic Planning Committee, Senate and Council; – very limited synchronization of work of academic, financial and physical planning committees.
- No comprehensive management information system and a lack of a relevant usable dedicated database.
- Internal and external 'gurus' the sole repositories of often conflicting planning information and wisdom.
- Only personal/individual contacts with the external environment, in particular the government planning machinery.
- Very little evidence of proper planning done at Departmental or Faculty level.

Processes

- Allocation of staff based on fixed staff/student ratios calculated in different ways with no institutionally agreed formula.
- 'Fuzzy' annual financial resource allocation; very loose fit between the estimates process and the planning proposals/reality.
- Frequent mismatches between physical infrastructure provision and academic requirements.
- No coherent/co-ordinated management of administrative institutional information resources.
- Lack of involvement of the Institution in crucial external decisions, leading to actuality overtaking planning decisions.
- Protracted recruitment procedures for all categories of staff, providing a serious bottleneck to plan implementation.
- Outdated and unattractive schemes of service.

Box 1. Continued

- Except for academics, no clearly defined administrative training schemes, particularly in areas of planning and management.
- Limited opportunities for upward mobility.

Modes

- Top UB administration bogged down in middle/lower management tasks; no time and/or energy for strategic thinking and planning.
- Tendency towards a culture of stopgap/ad-hoc crisis management; tenuous links between broad vision and detailed decision-making; centralized decision-making by tight circle of power brokers (outsider/insiders) with influence through association; and a consequent sense of powerlessness and alienation amongst the vast majority of staff.

3. Control of planning

- Few accessible and reliable statistics on key indicators of performance.
- No identification of essential performance indicators apart from the staff/student ratio.
- No regular ongoing internal review; less than thorough mid-term plan review.
- Little evidence of a co-ordinated assessment of the various components of the plan – physical, academic, financial – and the relevance of the plan to the changing external environment.

Drawing largely on the ideas contained within this paper the workshop prepared a report[9] which proposed that a strategic planning model should be developed that could enable the University to respond to the following key questions:

- Where are we now?
- How well are we doing?

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[9] University of Botswana. *Planning for Strategic Change*. Gaborone, 1992.

- What are our assumptions about the future?
- Where do we want to be in the future, and why?
- What different plans do we have for getting there?
- And at what cost or benefit?
- How can we, as an institution, change the way we do things in order to do our work better now and in the future?
- Where will our choices get us?
- Do we have the capacity (organizationally in terms of resources) to do the job?
- How will we review and control plans?
- How/when will we rework plans?

The components of the planning model were envisaged by the workshop as having three key elements:

1. An institutional planning framework that would involve the University undertaking the following key steps:

- environmental analysis;
- institutional analysis;
- resource analysis;
- mission review;
- goal formulation;
- review and development of programmes/operations;
- production of operational plans.

2. Institutional planning structures including the introduction of cost centre planning, and the establishment of a Planning and Resources Committee as well as a Vice-Chancellor's Planning Committee, the latter to provide a much-needed long-term planning perspective, while the former ensuring a tight fit between various planning submissions.

3. Institutional planning support involving the establishment of an Academic Planning Office to provide a central support to the planning process and a separate management information office to provide information support.

The report of the workshop was, however, unenthusiastically received by the Academic Planning Committee. Although the workshop had been organized and conducted under the auspices of the Committee itself and with the full backing of the Vice-Chancellor and his senior administrative team, the reaction to what were far-reaching and detailed structural proposals was lukewarm. The impression created at the meeting of the Academic Planning Committee which considered the report, was that the recommendations had gone too far too soon for an institution which had only begun to use the term *strategic planning* barely six months previously. It became obvious during the course of the meeting that it would require some time for the University to come to terms not only with the new managerial vocabulary that was employed in the report, but also the radical recommendations for structural change that would be required to support a move towards managing the Institution strategically.

A further consideration, if we are to attempt to explain this apparent reticence in respect to suggestions for change, was that even as the Academic Planning Committee was meeting to consider the Strategic Planning Workshop report, a number of task forces had been formed to address the various recommendations of a University Review Commission whose report had been accepted by Council and which; in broad terms; dealt with the University's future academic direction and the need to develop a revised organizational structure for the effective management and administration of the Institution. At the same time; the University was engaged in the installation of a computerized information system, and accordingly it was probably felt that many of the issues raised in the workshop report would be addressed, and possibly in a fuller way, through these two, albeit at the time unrelated; initiatives. As we shall see during the subsequent parts of this case study, this indeed did prove to be the case, with many of the ideas and suggestions of the Strategic Planning Workshop being echoed throughout much of the subsequent work that was undertaken both to restructure the University and to implement the information system.

To conclude this section, while it is true that the Strategic Planning Workshop made no immediate impact on the thinking and behaviour of the Institution, it did sow a number of important seeds, the most crucial of which concerned the issue of institutional purpose. As previously noted in the paper of Mokoena and Youngman, one of the key deficiencies identified was the absence of a clear mission statement. By 1997 this deficiency had been corrected. Although a period of nearly five years had elapsed, nevertheless the emergence of a mission statement and a complementary set of strategic objectives has provided one of the most obvious and visible outcomes of the ideas that were first germinated during the Strategic Planning Workshop.

However, as will be made clear in subsequent sections of this case study, the absence of a mission statement has in part had a detrimental effect upon the rest of the work geared towards institutional change undertaken in the University. One of the key lessons learned from this entire exercise is that the mission statement provides the starting point (rather than the concluding point) for any type of intervention such as organizational restructuring or the implementation of a new information system, with the consequent organizational upheaval that is inevitable. Without a clear perspective of the strategic goals and aspirations of the institution, such attempts at organizational change are at the best fraught with danger, while in the majority of cases they are doomed to failure.

Although unfortunately the University did address the issue of institutional purpose at the end rather than the beginning of the process of change, nevertheless the recent articulation of the following mission statement and strategic objectives must be seen as an important step towards the creation of a strategic management culture. The details of the University's mission are provided next, not only to demonstrate how the University's thinking has developed during the last few years, but also to provide an example of the type of work that needs to be undertaken at the commencement of any attempt to initiate organizational change.[10]

Box 2

University of Botswana
Mission Statement and strategic objectives 1997-2002
Mission Statement

The primary purpose of the University of Botswana is the discovery, generation, and dissemination and application of knowledge for the service of the nation and indeed mankind within an atmosphere of collegiality and academic freedom that allows for critical and free inquiry.

In order to achieve this the University of Botswana is committed to the following broad aims:

- to sustain excellence in teaching, learning, research and professional service to the nation and the community;
- to strike a judicious balance between the utilitarian development role and the broader role of education which challenges students to think critically and creatively;
- to equip students with the knowledge, skills and attitudes suitable for future employment;
- to provide continuing education in order to equip society with lifelong skills to cope with existing and future problems in a rapidly changing world;
- to diversify methods of delivery of its academic programmes in order to enhance access to higher education;
- to continuously improve its management systems through an organization-wide dedication to quality management.

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[10] University of Botswana. *Draft NDP8 University Plan*, 1997.

Box 2. Continued

Academic goals and objectives

Goal 1: Academic policy

Create, promote and oversee a strategic academic policy framework which will facilitate and foster the design, development, implementation and continuing review of academic plans and programmes geared to the establishment, enhancement and sustainability of relevant and innovative scholarship of the highest quality within the University.

Related objectives

- Advocate and support collaborative research by the University, with partners in the education, private and parastatal sectors on higher education policy analysis.
- Establish a Department of Planning and Information with responsibility for the direction and co-ordination of the University's academic planning process and for the provision of analysis and decision support to senior academic management.
- Institute a system of needs assessment and evaluation in the academic area as part of a quinquennial review of academic programmes.

Goal 2: Academic management

Establish and nurture a system of the highest quality for the management and co-ordination of the academic work of the University in order to achieve and maintain client-oriented excellence in its teaching, research, research training, and professional service functions.

Related objectives

- Establish a Centre for Academic Development with responsibility for the articulation of quality assurance policies, plans, guidelines and programmes for the review and development of the following in the University and its affiliated and associated institutions: – academic programmes; – academic leadership and management

Box 2. Continued

skills; – academic research and teaching resources; – academic staff teaching competencies; – learning competencies of students; – research, publications and consultancy competencies of staff.

- Establish a Department of Academic Service that shall be responsible for academic policy co-ordination, academic administration, and the provision of academic support services to all units of the University and its affiliated and associated institutions.
- Ensure that all academic leaders receive training in the management and administration of the human, material, fiscal and physical resources required for high-quality execution of the academic work of the University.
- Ensure that all academic support service centres (the library, academic computing, educational technology) are provided with human, material, fiscal and physical resources of the highest quality.

Goal 3: Academic programmes

Ensure that the dynamism and the quality of the teaching and learning process shall be informed by the growth of high-quality research and shall rest on the acknowledgement that while scholarship shall primarily be pursued in the context of, and guided by, the sociocultural values of Botswana, it shall necessarily reflect the University's membership of the international community of scholars.

Related objectives

- Identify the role and function of research in the University in the context of research policy at the national and institutional levels.
- Devise a system for the planning, management and co-ordination of research within the University.
- Strengthen the University's capacity for performing high-quality research through the recruitment, nationally and internationally, of good-quality staff and research students.

Box 2. Continued

- Enhance the capacity of the teaching, research training, and research activities of the University to anticipate and respond to changing national and regional needs by: – promoting interdisciplinary research; – making optimal use of advances in technology.
- In selected disciplines, establish regional centres of teaching and research excellence using collaborative links with renowned partner universities.
- Attain a minimum average rating of 'Very Good' in teaching and research across all Departments of the University, particularly in science, engineering and technology.
- Promote and enrich the quality of the outreach function of the University through enhancement of its distance education, continuing education, contract research and consultancy, and community-oriented cultural and recreational programmes.

Goal 4: Students

Provide equitable access of students, including minorities and the disadvantaged, to a living and learning environment that will foster high-quality education and training and stimulate personal development; identify and develop the best management and administrative systems needed to nourish such an environment.

Related objectives

- Establish a Division of Student Affairs with responsibility for ensuring that students are provided with a responsive and encouraging living and learning environment.
- The Division of Student Affairs, working in liaison with the Department of Academic Services, and being sensitive to past imbalances, should encourage increased enrolment of students from disadvantaged and minority backgrounds.

Box 2. Continued

Finance and administration goals and objectives

Goal 1: Quality management system

To ensure a continuous improvement of its management systems through an organization-wide dedication to total quality management that will satisfy the needs and expectations of the Institution's customers and clientele.

Related objectives

- The University will maintain and strengthen the decentralized organizational structure that delegates responsibility, authority and accountability to the lowest level possible in order to maximize the achievement of the institutional goals and objectives.
- The Council will become less involved in the ongoing operations and more involved in long-range planning and policy matters.
- There will be greater involvement between members of the Senior Management Team and the Council.
- The University will establish and maintain sound line-to-line, line-to-staff and staff-to-staff interrelationships that will support the effective implementation of the University plans.
- The University will keep the number of layers of administration at a minimum so that flexibility and responsiveness are maintained.
- The University will refine decision-making processes and develop ways of speeding up the time involved, while at the same time ensuring the effective means for participatory contributions through the use of ad-hoc problem-solving teams or horizontal working groups of a more permanent nature to investigate issues that cut across functional areas, and to make appropriate and timely recommendations.
- The University will investigate various alternatives for handling operational problems, which are presently not being resolved effectively or efficiently.

Box 2. Continued

- The University will consider forming a standing communications committee, which will develop new and better, more efficient and effective, ways to communicate.
- The University will examine and propose effective staffing parameters for the future.
- The University will develop a one year and five year planning process to ensure the proper setting and implementation of goals, utilize resources more efficiently and effectively while, at the same time, continually preparing for the future.
- The University will develop a master schedule which will detail all ongoing programme activities that occur regularly that are interdependent, concurrent and independent and which take place during a specified time period.
- The University will refine the present planning model including procedures for identifying long-range aspirations and mechanisms for their achievement, as well as the necessary short-range steps for implementation. The planning model will include the following elements: – a statement of mission and goals; – the development of external and internal environmental forecasts and their implications; – the development of alternative programmes along with accountabilities and schedules to achieve objectives:a description of resource requirements; the development of procedures for implementation and evaluation; the development of contingency plans; a means of approval and action.

Goal 2: Quality personnel

To ensure a continuous improvement of its management systems through an organization-wide dedication to total quality management through the endeavours of its employees, who will satisfy the needs and expectations of the Institution's customers and clientele.

Box 2. Continued

Related objectives

- The University will maintain good employee morale through salaries, working conditions, equipment etc. The University will provide employees with comprehensive information about fringe benefits.
- The University will continue its efforts to recruit and maintain qualified high-calibre Batswana staff.
- The University will develop and publish a comprehensive set of personnel policies and procedures.
- The University will provide orientation, professional development programmes and in-service training opportunities for its administrative staff.
- The University will develop forms, procedure manuals and other materials to assist personnel in the execution of their responsibilities.
- The University will determine the need for additional staffing requirements resulting from growth and the development of new functions.

Goal 3: Quality resources

To ensure a continuous improvement of its management systems through an organization-wide dedication to total quality management through the endeavours of its employees, provided with the requisite resources in order to work in a productive, effective and cost-efficient way, to satisfy the needs and expectations of the Institution's customers and clientele.

Related objectives

1. Financial

- The University will develop specific plans for ensuring sufficient University funding for the five-year planning period.
- The University will assess the need for future funding and determine appropriate strategies.
- The University will develop other sources of funds and determine appropriate strategies.

Box 2. Continued

- The University will develop and implement a comprehensive cost analysis model, which provides for better decision-making, control and resource allocation. The model will identify various components of University costs, including direct and indirect costs, fixed and variable costs, controllable costs, incremental costs, and costs by programme, function and activity.
- The University will implement plans for flexible budgeting, which will allow for budget shifts to accommodate departmental or functional variations.
- The University will improve budget information and planning processes for continuous management monitoring and evaluation.
- The University will develop and implement a system to evaluate costs reflecting goals and objectives, as well as in terms of outcomes, i.e.: cost benefit analysis.
- The University will examine the revenues and expenditures for auxiliary enterprises such as the catering service, bookstore etc.

2. Physical

- The University will continue to develop a network of off-campus educational delivery sites, permitting the University to reach its clientele more economically and efficiently and to make education more accessible throughout the country.
- The University will secure additional funds for preventative maintenance of buildings as facilities age. Funds will be obtained to eliminate deficiencies that may have developed over the years.
- The University will continue to improve the means of accounting for the use of instructional equipment and assign responsibility for the proper control of that equipment.
- The University will develop a computerized data system for all aspects of physical and plant maintenance and services as well as for instructional equipment maintenance and replacement.
- Plans involving facilities will be documented and maintained on an up-to-date basis.

Box 2. Continued

- The University will continue to monitor and evaluate campus-wide use of energy. The University will secure funds to renovate utilities and to remodel and modify facilities in order to achieve long-term savings in energy and operating costs.
- The University will determine whether the present system of staffing the physical plant is adequate for meeting future needs.
- As the University moves towards an operational schedule that utilizes facilities more hours each day, more days each week, and more weeks each year, additional provision of security, maintenance and routine custodial services will be required.
- The University will examine changing space requirements in order to maximize use of the physical facilities on campus. In particular the University will examine innovative curriculum delivery approaches to achieving optimum scheduling and space utilization. The present priority room utilization system will be evaluated to determine whether it results in the most effective utilization of present facilities.
- The University will monitor the potential need for laboratory facilities resulting from changing enrolments and new programmes.
- The University will provide a means of seeking input from campus personnel concerning all aspects of the design, use and maintenance of University facilities.

Section IV

Integrated tertiary software

The second element of organizational change involved computerization of the administrative information resource. In early 1990, under the aegis of the Computer Services Steering Committee which had been established in 1985, the University purchased a software system, Integrated Tertiary Software (ITS). ITS is a South African-based company established in 1986 to specialize in the provision of software for the administrative applications for tertiary education institutions. The company's marketing literature at the time had the following to say about its product.[11]

Box 3

ITS Integrated Tertiary Software

Administrators in tertiary education are faced with complex demands. Apart from the administration of students, staff, finances and all the other resources that are applied in tertiary education, they also need to provide accurate and up-to-date information on all these areas to a diverse 'public' that includes students, the academic community, the institutional management and the agencies outside of the institution.

It is obvious that this can only be done effectively with the aid of computer-based systems. The development of such systems does however require much time, thorough insight into the requirements, and of course top quality data processing staff. If this development is done within the institution the process is expensive and time-consuming and success is by no means assured. If an outside company is

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[11] ITS. *Introducing Integrated Tertiary Software*, ITS. Pretoria.

Box 3. Continued

contracted to do the work, the time spent in acquainting the outsiders with the unique requirements of tertiary education adds to the cost. The originators of ITS recognized the need for commercial products in this area and formed ITS as a company that specializes only in software and support for the administrative needs of tertiary education. The ITS systems are in use at a large number of institutions in Southern Africa, and over the last few years they have been thoroughly field tested, debugged and upgraded. These systems have been designed to be flexible so as to be able to handle the changing needs of a variety of institutions. ITS staff have also installed these systems many times over and that experience is available to all new users of these systems. ITS's client base comprises more than 20 tertiary institutions in Southern Africa. These institutions range from small technikons through to some of the largest universities. They include:

- A large correspondence technikon in South Africa with 45,000 students.
- A number of large universities in South Africa.
- University of Namibia (and subsequently the University of Botswana).
- Small institutions with only a few hundred students. This wide diversity is due to:
- The flexibility and modularity of the ITS systems.
- The ease with which local modifications can be made. The success of the implementation of any new system is dependent on a number of factors amongst which the motivation, knowledge and understanding of the users of the systems are of prime importance.

ITS is committed to making a success of each of its installations and to ensure this there is substantial ITS involvement during the whole process. This consists of:

- Advice in setting up implementation committees.
- Training of users in the operation of the ITS systems.
- Advice in designing new procedures and the general flow of work.

Box 3. Continued

- Assistance in transferring data from previous systems.
- Making changes to reports and input screens to suit unique local requirements.
- Telephonic support during and after the initial implementation.

The users of the ITS systems have formed themselves into a Users Group. This group meets annually, and apart from exchanging information on the use of the systems, they also make recommendations to ITS in respect of enhancement and changes to the systems.

With a base at Pretoria in close proximity to the University of Botswana providing excellent training and technical support, ITS was the only real option considered and after an on-site demonstration of the system, an agreement was signed in July 1990 by the University, contracting ITS to install its database. The acquisition of ITS was a typical top-down strategic decision where senior management believed that ITS was fundamental to the success of the organization and with a giant 'act of faith' purchased the system. The wisdom of this decision was subsequently justified by the high-class quality product that ITS turned out to be, but the approach was necessarily risky and is not one to be recommended except to the most confident of senior managers. While it is not the intention to detail the various techniques for evaluating information systems (a number of summary suggestions are made towards the conclusion of this case study) a review of the appropriate literature confirms that there is a multiplicity of evaluation methods and approaches available. Unfortunately a project of this nature was so new to the University that even the necessity to undertake a formal appraisal of ITS was ignored, a proper rationale for choosing ITS as opposed to other systems or even in-house development was not considered, and the consequential changes that the Institution would be required to undertake were not appreciated. It is unfortunate that all of the reports of other universities and the on-site demonstration at the University of Botswana were not conceived of as part of a more comprehensive and formal appraisal.

Nevertheless the University did decide to purchase ITS and the schematic outline of the system below demonstrates why this particular information system was seen as particularly attractive. Through a single, unified database, it promised to provide a high level of integration across the entirety of the administrative processes of the University. It would therefore ensure that:

- no data be duplicated;
- the input of data be kept to a minimum;
- there be no need for interfaces between different sub-systems;
- time consuming manual consistency checks between sub-systems would not be required;
- information spanning sub-systems could be extracted without complications;
- the reliability and integrity of data be assured since all data would have a standard definition throughout the Institution;
- information would be accessible at the point of actual need, thus enabling faster decision-making, promoting greater productivity, and creating a more efficient and effective workforce.

Embracing the entire gamut of the University's administrative operations from student and personnel data to the specific details of the academic record, financial and physical resources, ITS appeared to provide a simple yet exciting means for the Institution to re-organize and better utilize its administrative information resources.

Box 4. Integrated tertiary software

Library system
- Cataloging
- Circulation
- Acquisitions
- On-line public access
- Periodical control

Student system
- Applications and selection
- Registration
- Study records
- Lecturing timetable
- Exam timetable
- Alumni

Building space inventory
- Buildings
- Records of space – allocation – utilization

Personnel system
- Post establishment
- Full biographical detail of personnel

Student debtors
- Debts and credits

Assets inventory
- Asset types
- Maintenance contracts
- Bar code of assets

Payroll system
- Standardized allowances and Deductions per appointment type
- Budgeting for future cycles

Finance system
- Cashier
- General Ledger
- Accounts payable
- Accounts receivable
- Purchase ordering

Stores system
- Orders and receipts
- Issues
- Debit sales to students

The technology platform acquired by the University in order to support the ITS system required that it divest itself of its existing mainframe computer system and invest in what was then a 'top of the range' mini-computer which ran on a UNIX DRS. 6000 box. The technical issues associated with networking the campus for the system have given rise to peculiar problems and merit consideration in a separate case study. It is not the purpose here to itemize the ITS system or to describe the supporting technology that the

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University acquired in order to ensure its functionality. Rather, the intention is to probe the process of implementation of the ITS system and draw lessons from that experience.

The initial phase of implementation of the ITS system in the University of Botswana entailed:

- initiation of a process that was led, driven, and supported by the institutional leadership;
- establishment of a pilot project team which had the capacity to drive the process of implementation through the crucial first phase and, it was hoped, to anchor the system firmly within the Institution;
- establishment of a high-level Information Management Systems Committee to oversee the implementation of the ITS system.

4.1 The role of senior management

The proactive involvement of the Vice-Chancellor was probably the most important factor in ensuring the proper commitment of the Institution to the acquisition of a computerized information system. Often, the principal reason for the failure of information systems projects has been the reluctance of senior management to accept executive responsibility for their implementation. The task of facilitating and ensuring the implementation of such systems has frequently and incorrectly been perceived to be the function of technical support staff. Senior management has therefore relegated, rather than delegated, this responsibility to the information technology (IT) manager.

This was not so at the University of Botswana. From the outset, the Vice-Chancellor was committed to the introduction of a computerized information system, facilitated its acceptance through an on-campus demonstration of the ITS system, championed the purchase of the system through the relevant standing committees of Council, assumed executive responsibility for the initial implementation of the system, brought into existence a project implementation team, and subsequently endorsed the institution of an Information Management Systems Committee. Senior management, while openly acknowledging the steep learning curve that would have to be followed because of institutional unfamiliarity with advanced information technology and integrated information systems, recognized the acquisition of ITS as essential to the efficient and effective administration of the University.

4.2 The project team

Soon after the information system was acquired, a project team was established. Its members were drawn from across the University staff and were selected on the basis of individual expertise and perceived ability to drive the implementation process forward. The team's principal objective was to implement the 'student' subsystem as well as those parts of the remaining ITS modules ('finance' and 'space', for example) that were necessary to ensure the proper functioning of the student subsystem.

The work of the team was limited to a Phase 1 pilot project that was to ensure that the core of the system was fully functional. Outstanding work was subsequently assigned to certain functional departments of the University (Student Affairs, Physical Planning, Estates and Maintenance, Office of the Bursar, Office of the Registrar, for example). The main focus of the project team and the ensuing work of the functional departments basically entailed data auditing and verification, staff training, and input of data. While by its very nature the bulk of such work was relatively mundane and seemingly routine, it none the less requires closer inspection as it lay at the core of the initial success of ITS and thus yields some important pointers for the future.

The initial brief that established the ITS project team was drawn up by the Chair of the Computer Services Committee and circulated to Faculties in April 1990. The intention during the first phase was not a complete installation of ITS but instead to set up just sufficient of the system to permit the registration of students in August 1990 at the commencement of the academic year.

A rather complicated committee structure was created, at the apex of which was an implementation Committee to be directed by the Vice-Chancellor and with membership consisting of academics as well as key members of the administration. The directive that was issued to the Faculties under the heading 'Computerization of Student Records' provided the first official notice to the University community of the acquisition of the ITS system and referred to the process of implementation in the following terms:

> *"... The Faculty representatives will be required to devote a considerable amount of time working within a small sub-committee directed by the Chairman of the Regulations Review Committee [a standing Committee of Senate chaired by a member of academic staff and responsible for oversight of the University's academic regulations] and this Committee will in turn work within a larger Sub-Committee directed by the Deputy Registrar".* (Memorandum from the Chair of Computer Services Committee to all Deans, 11 April 1990).

In order to implement the payroll, finance, and space management modules of the ITS system a committee structure similar to that for the Student System was established with membership drawn from the central administration staff under the leadership of a senior member of the Office of the Bursar. The work of these various committees was seen as entailing the transfer and updating of data, the design and modification of the various output reports, the training of staff in the use of the system, concluding with the live, on-line registration of students four months later.

The details and minutiae of what occurred during this four-month period are not the principal concern of this case study, which concentrates on the larger issue of information systems strategy and organizational change. Suffice it to say that a much simpler implementation structure rapidly emerged with a single project team assuming overall responsibility for the implementation of all initial aspects of the ITS system. The team managed to overcome a considerable number of obstacles to ensure that a smooth and almost flawless on-line registration of students was effected within the original time-frame.

The remainder of this section seeks to identify the factors critical to the success of this project team and the lessons to be learned for the future and which relate to the lattermost part of the case study which suggests a reintroduction of ITS to the University.

That the major reason for the acquisition of the ITS system was to automate and computerize administrative functions and processes is clear from the following memorandum sent to the Deans of Faculty by the Chair of the Computer Services Committee and reproduced below:

Box 5

To: All Deans of Faculties
From: Chairman, Computer Services Committee Date:
9th July 1990
Subject: *Computerization of the Administrative, Students*
Records, Personnel and Payroll, Financial, Library
and Space Management Functions of the University

I have been made aware that Deans and some other officials of the University have not been sufficiently informed of the activities and plans concerning the implementation of the computerization of the above functions. This is rather surprising in view of the fact that Faculties, as well as other relevant bodies of the University, are fully represented on the Computer Services Committee. The purpose of this memo is to give you a brief up-to-date position of the implementation schedule.

Box 5. Continued

No doubt you are aware that when the System 39 ICL mainframe was purchased in 1986, one of its main functions was to realize the above computerization objectives. Due to difficulties in obtaining the appropriate software, and also in recruiting the staff necessary for the operation of a mainframe, as well as recent advances in micro and mini computer technology, the relevant committees of the University decided to achieve the above stated objectives by using other than a mainframe computer.

Accordingly, a system called Integrated Tertiary Software (ITS) is being acquired together with the relevant minicomputer and associated peripherals. Accordingly, an ITS Implementation Committee was formed, and reports directly on its progress to the Vice-Chancellor. This Committee has two or three sub-committees involved in the implementation of the various components of the computerization process. Of immediate interest is the Academic Sub-Committee, and the enclosed memorandum gives brief details of its implementation structure, targets and progress to date, as well as the people involved. I trust that this serves to give you at least an introductory glance at the activities taking place with a view to achieving the computerization objectives. Please accept my personal apology for having kept you in the dark about the goings-on of the various committees. The Computer Services Committee as well as the ITS Implementation Committee would very much appreciate your co-operation towards making this exercise a resounding success. In this connection, you may have been informed that some of your Faculty officers have been co-opted by, especially, the Academic Sub- Committee, beside those nominated by yourselves to serve on these committees.

Professor R.A. Ampomah
Chairman, Computer Services Committee
cc: Vice-Chancellor, Deputy Registrar, Computer Services Manager, Mr J.R. Neill, Ms M.M. Madisa

Evidently, there was little or no appreciation of the intrinsic potential of such a system to engender organizational transformation in pursuit of institutional administrative excellence. In particular, there was no clear appreciation of the likely impact of ITS throughout the Institution, of the necessity to link its implementation to the burgeoning parallel process of revising the organizational structure – an exercise which became a major, albeit separate, preoccupation of the University. Probably even more fundamentally, there was little or no understanding of the need to articulate an information strategy that was suitable for the University's vision, mission and strategic objectives.

Our contention is that the role of Senior Management is one of the critical success factors in any information systems project. The key issue that senior management failed to grasp during its preliminary conceptualization of the ITS project was that an information system of the ITS type is the crucial technological link between the realization of overall organizational strategies and the institutional management agenda. From the initial experience of the University of Botswana in undertaking this project, the following pointers emerge:

- the impetus for the decision to acquire an information system such as ITS, must come from senior management – not an individual line manager (Registrar, Bursar, etc.) – because the decision is one that will probably have a significant impact throughout the Institution. Not only will it affect the way information flows, but it will also redefine job processes, job functions, and the jobs themselves, with the ultimate consequence of necessitating a redesign of the organizational structure;
- the key stakeholders whose jobs are likely to be impacted by the introduction of ITS, and who are critical in ensuring the system is exploited to the full, should have been more involved with the decision to buy the ITS system than seems to be the case. Specifically the initiative should have been driven by the line managers responsible for

the Institution's key administrative functions, not the Computer Services Department or the Computer Services Committee, whose primary concern is computer hardware not the Institution's administrative information resource.

Even though the project team succeeded in ensuring that ITS was launched on time and in accordance with the project brief, certain important aspects of its work can now be seen as having been less than successful. The shortfalls can be summarized as the following:

- the scope of ITS and its implementation was visualized in extremely narrow terms;
- the nature of the work was conceived as involving two main activities – the transcribing of existing manual records into the system, and quite separately the technical aspects of computers, networks and cabling.

By responding promptly, efficiently, and successfully to its constricted project brief, the project team merely provided confirmation of the narrow perception of the nature of the project. Similarly, the success of the University's IT specialists in the Centre for Computer Services in accomplishing their separate brief of establishing the initial network through which the system would function, reinforced the restricted understanding of the scope and nature of the project.

The root causes for the poor conceptualization of the project lay with the original decision to acquire the system and permeated the subsequent cycle of project implementation. The benefits of acquiring an information system were perceived in narrow yet blurred terms. The complexity of the system and the degree of organizational change attendant on its proper and complete implementation were not properly appreciated. In short, the key issue of why the system was being acquired was not addressed in very specific and detailed terms nor was ITS properly understood within the context of an institutional information systems strategy. The result was a poor definition of the project. This in turn led to a failure to anticipate the potential impact of the ITS system on jobs and functions, and the managerial consequences of introducing a new and advanced information system into an existing organizational structure. These flaws in conceptualization, planning and structuring of the project naturally spawned a poorly conceived mechanism for monitoring and evaluation of its progress and so compromised its implementation.

While this error in conceptualizing the ITS project possibly represents the most critical weakness of this early stage of implementation, there were other, more positive, features:

- the leadership of the project team proved extremely effective in galvanizing the project, generating considerable commitment from members of the team, acting as ITS champions throughout the Institution, and demonstrating its ability to function successfully within a large and complex project environment;
- academic staff drawn from across the University – was equally critical. None of the 15 to 20 team members could have been described as computer experts. A considerable number of them were using computers for the first time. Their core attributes, which proved to be more valuable than computer skills, were enthusiasm, commitment, self-motivation, the ability to work as part of a team, and the capacity to solve problems in an innovate way.

Fortunately, the University had available a sufficient reservoir of multi-skilled, flexible and adaptable talent which was willingly co-opted to expend a considerable amount of time in addition to normal teaching and administrative duties throughout weekends, public holidays and the long vacation in order to ensure a proper completion of the project brief.

4.3 Information Management Systems Committee

Towards the end of the preliminary phase of the project, some key members of the team began to appreciate the broader dimensions and potential implications of the University's decision to commission the ITS system. In particular, for the first time within the Institution there began to emerge a clearer recognition of the link between the ITS implementation project and the parallel endeavour of organizational restructuring, which had started at about the same time at the instigation of the University Review Commission.

Although at that stage (1990 to 1992) the degree to which the University would be affected by the acquisition of ITS was not fully comprehended, there was a dawning realization that a likely outcome of the implementation of the system would be an institution-wide change in attitude towards information, information systems, and information technology. This, in turn, would demand the establishment of appropriate structures and mechanisms for the management of information within the context of an institutional information strategy. This growing consciousness led to the establishment of an Information Management Systems Committee (IMSC), chaired by the Deputy Vice-Chancellor, with an overall brief to develop and implement an information systems strategy for the University. Despite the fact that the life of the Committee was short lived, its brief two-year existence signaled an important awareness by the University of the need for senior management to set a proper direction and articulate a high-level policy framework for its newly acquired information system.

The proposal for the formation of the IMSC was prepared by members of the initial project team and the rationale for adding yet another committee to an already complex and extensive University Committee structure was the following:

> *"Prior to the advent of ITS the need for a management structure to deal with institutional data was obviously negligible. The only sections of*

the Administration that had started to use computerized systems were the Office of the Bursar and the Academic Section of the Registrar's Office. In addition a number of Faculties had started to computerize their examination results. However such developments were largely ad hoc and independent of each other and there was virtually no interaction between the various systems.

The recent adoption of an integrated approach to administrative computing within the University will inevitably lead to a restructuring of the administrative environment, a breaking down of departmental barriers, an institutional perestroika, a revision of administrative mechanisms, a reallocation of responsibilities and the creation of new levels of power within the organizational hierarchy. The arrival of ITS has already started to place new demands on the University and the need for a management structure to oversee this aspect of the work of the Institution is essential. The changes that are likely to take place are at this stage difficult to predict. However it is certain that job definitions will change, decision structures will be altered, some even replaced, and information will feature more prominently in the workings of the University".[12]

The Committee was established as a sub-Committee of Senate with a brief to oversee the continued implementation of ITS and to ensure a proper integration of the system with the Institution's functions, processes and jobs.

The creation of this committee in itself highlighted the then underdeveloped perception by the University of its information strategy. The Computer Services Committee which had been established in 1985 was still regarded as the Senate sub-committee responsible for policy matters in the area of computers and computerization, while the IMSC was perceived as being responsible for implementation of the ITS system. This view was, of course, consistent with the 'utilitarian' view of the ITS system as a tool which had been bought primarily in order to improve the administrative efficiency of the Offices of the Bursar and the Registrar. It was, however, a cognition that was fundamentally at odds with the basic IMSC mandate of developing the University's information strategy. That the system, in addition to facilitating and easing routine administrative work, could be a powerful aid to managerial planning and decision-making was a notion entertained by only a handful of people, none of whom occupied senior management positions, though most of whom were members of, or closely associated with the work of the original project team.

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[12] University of Botswana, *Information Management Systems Committee Terms of Reference,* 1991.

The IMSC met four times between May 1991 and March 1992. Although the reasons for its demise have not been officially pronounced, an important factor was that key members of the Committee also found themselves involved as leading participants in some of the other major institutional initiatives which the University was undertaking at the time. Examples were their co-ordination and membership of the Strategic Planning Workshop and their leadership of the task forces on the reorganization of the administrative, management, and academic structures of the University. By their very nature, these exciting and groundbreaking parallel activities of immense strategic significance drew extensively on the time and the energy of these individuals. One of the resulting casualties was the IMS Committee.

During its short life span, the IMSC failed to accomplish its primary task of mapping out an information strategy for the University. It did, however, start to address a number of operational issues that can be broadly categorized as follows:

- monitoring of the progress of ITS implementation and providing for the first time a high-level and comprehensive overview of the work achieved as well as of the outstanding tasks to be undertaken;
- technical issues – including major difficulties with the networking of the new computer system, various hardware and communication

problems, the incompatibility of different systems and software within the University, and problems with the cabling systems;
- organizational issues including staff training, migration strategies, improvement of institutional understanding of administrative computing through the organization of a high-level seminar, and, of major consequence to this case study, the issue of organizational change.

With regard to organizational change, the Committee specifically commissioned and discussed a background paper which outlined the impact the ITS system could be expected to have on the Institution and how fundamental changes in jobs, functions and reporting structures were likely to arise. The Committee acknowledged the close interrelationship between the implementation of ITS and the impending organizational restructuring and recommended that the soon-to-be-established Task Force charged with the responsibility of restructuring should "bear the needs and implications of the ITS system in mind".[13]

This new awareness within the Committee of the necessity to link the implementation of ITS to the process of organizational restructuring stemmed from the lessons learned from the initial work of the project team. It was now clear that from the outset the ITS project:

- had been incorrectly conceived as a 'stand alone' project;
- had not been considered as having any organic relationship with the accompanying parallel process of organizational change that was taking place at the behest of Council;
- had been totally detached from the University's mission and strategic objectives.

Further, it was recognized that the early belief that the implementation of ITS would be a quite short and simple process, with the principal activity

[13] Information Management Systems Committee, *IMSC Minute 10/91.6*, 1991.

being the input of data to the system coupled with ensuring its accessibility *via* the soon-to-be-installed campus network, was misconceived.

It was also recognized that the next stage of implementing the ITS system would have to take into consideration the wider institutional context and the radical changes that would have to be made elsewhere in the organization. At the beginning of both the ITS project and the task of organizational restructuring, there had been little institutional appreciation of the necessary relationship between the introduction of new information technology and systems and the development and articulation of an institution's mission and strategy. The link between the information systems project and the task of significantly improving the Institution's management processes was therefore not emphasized. The issue of information technology became too consumed with technology, and the task of implementing the ITS system was essentially disengaged from the process of articulating the overall institutional strategy. It was through the work of IMSC that, paradoxically, had been set up as an implementation committee, that a more realistic and sophisticated appreciation of the strategic task ahead emerged. It became increasingly clear that in order to ensure a successful implementation of the whole ITS system, more profound and complex organizational issues, with an impact on the entire Institution, would have to be considered. This new enlightenment recognized the necessity to ensure a strategic fit between the Institution's information system, its institutional strategy and its management processes. In part as a consequence of this recognition, the complete installation of ITS stalled pending the completion of the restructuring of the management and administration, which is dealt with in the following part of this case study.

Section V

Restructuring and organizational development

Parallel to the initial implementation of the ITS system and the thinking on strategic planning issues which culminated in the Strategic Planning Workshop, the same Academic Planning Committee was addressing the issue of how best the University could be managed. The origin of the efforts by the University of Botswana to undertake a fundamental evaluation of its operations can be traced back to the mid 1980s when the University, during National Development Plan 6 (1985/86 – 1990/91), first mooted the idea of an external review of its operations. It had become clear to the University Administration, drawing on its experience of National Development Plan 5 (1979/80 – 1984/85), that there was a need for a more comprehensive and coherent approach to the formulation and development of the University's six-year plans and that these plans should reflect a more clear and far-sighted vision of the internal and external environments of the Institution.

These deliberations ultimately led the University Council, on the advice of senior management, to invite in 1990 a Review Commission of international composition to advise the University on the measures to be taken in order to anticipate and meet the challenges which lay ahead. Of particular contextual relevance was the Term of Reference No. 2 of the Review Commission:

> *"To advise on the restructuring of the current administrative, organizational and academic structures with a view to decentralizing and/or consolidating or merging certain functions in order to achieve effective administration in a rapidly expanding institution. To make recommendations regarding the requisite establishment and the ranks*

> *of staff needed for the new structures. To advise on the development of a management system* including computerization and appropriate consultative machinery *to enhance performance"*. [14]

It is noteworthy that this Term of Reference explicitly linked the reorganization of academic and administrative structures to the development of a computer-assisted management system. University senior management had therefore been aware, as long ago as 1989 when the terms of reference were drafted, of the need for a management system that would make use of 'computerization'. Equally striking, however, is the apparent lack of a clear perception of the potential benefits to be derived from the use of information technology as a management tool.

In June 1991 the Report of the Review Commission was received and considered by the University of Botswana Council, which accepted the fundamental recommendation of the Commission that there was a need for a wholesale reorganization of the mode of work of the University in areas spanning the form and content of academic programmes, the management and administration of the Institution, student affairs, affiliation arrangements, and academic support services.[15] Council authorized Senate to establish appropriate task forces to undertake the detailed work regarding the reorganization and to make recommendations to Council in due course.

From the point of view of this case study, the key recommendation of the Review Commission was that there be a major reorganization and restructuring of the University. Having noted that academic planning should remain the business of the Academic Planning Committee the Commission observed that "*.. the Academic Planning Committee lacks planning data to*

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14. University of Botswana. *Report of the Review Commission*, University of Botswana, Gaborone, 1991, p. 4.
15 . University of Botswana. *Decisions of Council on the Report of the UB Review Commission*, 1991.

facilitate adequate planning. The setting up of the Office for Institutional Data recommended in this report should ensure the availability of planning data. Computerization and appropriate software should also assist in this regard". The Commission noted that this Office would be responsible for providing the University with readily available and accurate data which would include enrolment and drop-out figures, cost and comparative cost data, staff/ student ratios and other data necessary for short- and long-term planning. In a sense the Review Commission was echoing the sentiments which had already been expressed within the Academic Planning Committee and the Estimates Committee. The recommendation was that the Office be staffed by " *a full-time Director who has computer and data skills, and a secretary with computer input skills"*.

A further observation was that:

> *"The Commission is satisfied with the University's approach to planning but this will have to be enhanced and improved by the creation of a comprehensive planning database"*.

Apart from a brief mention of the Computer Services Department the Report was noticeably silent on the questions of information technology, information systems, information systems management, and an institutional information strategy.

In January 1992 the Vice-Chancellor, acting on behalf of Senate, established seven task forces (subsequently an eighth, dealing with graduate studies, was added) including Task Force One, whose specific term of reference was to:

> *"address all matters relating to the reorganization of the administration of"* [the University of Botswana] (Vice-Chancellor's Memo VCG. 2/98).

The Task Force commenced its work by developing a set of guidelines, which almost from the onset anticipated a resistance to the new order, notwithstanding the Institution's apparent commitment to change.[16] The guidelines specifically addressed the issue in the following terms:

Box 6

Organization change – extract from Task Force 1 guidelines

In 1513 Machiavelli wrote "It must be considered that there is nothing more difficult to carry out, nor more doubtful, nor more dangerous to handle than to initiate a new order of things". Although Machiavelli is clearly not a role model for the Task Force, nevertheless what he said is quite pertinent to any discussion of organizational change in universities, as they have over the ages provided a paradox in terms of transformation.

Notwithstanding the essential mission of the University which involves the search for and communication of new knowledge and ideas, as organizations universities have strongly resisted the consequence of that new knowledge as it impacts on their own management structures, which still strongly carry the hall-marks of their medieval antecedents.

Resistance to change of any kind is universal in all organizations, but is highly evident in universities which by virtue of their origins and their unique control systems, are particularly adverse to even the vaguest hint of any attempt to tamper with their traditional mode of collegial decision-making. Naturally force or coercion can overcome resistance but persuasion is the essential tool to properly convince staff of the need for change. The merits of the proposed change must be made explicit and must be augmented with potent and effective arguments that the advantages of change are greater than the disadvantages, and certainly more agreeable than the status quo.

The Task Force recognizes that the University of Botswana would be highly unusual if it did not exhibit a similar deep-seated resistance to

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[16] Task Force 1: *Restructuring the University Administration, Guidelines*, 1992.

Box 6. Continued

change. The pace at which organizational change can be introduced depends to a large extent on how well staff have been sufficiently persuaded and prepared to accept extended and more challenging responsibilities. Such change will therefore have to be carefully planned for, and deliberately directed so as to ensure that the University is successfully transformed to meet the challenges that it will face in the future.

The guidelines then sought to remedy this potential problem by first of all providing an elaborate justification for change which had been inadequately addressed by the Review Commission or, subsequently, by the University as a whole, in particular Senate, Council and senior management. The Task Force accordingly was compelled to justify the work it had been asked to undertake and proceeded to clarify for the University community why its work was essential. It did so through a set of objectives followed by a warning of the consequences of what could possibly occur to the Institution if restructuring was not followed through. The necessity for organizational change was argued on the basis of the following:

1. Institution building as characterized by:

- the expansion of the University towards a student enrolment of 10,000 by the year 2001;
- the augmented scope of academic and related programmes during the then current (NDP7) and succeeding (NDP8) plan periods;
- the extension of the functions of the University to embrace its affiliated and associated institutions and colleges;
- the ability of the University to cope with an increasingly complex matrix of future demands that a rapidly changing external environment will place on the Institution;
- a vision and mode of thinking which focuses on the future shape and mission of the Institution during the latter part of the 1990s and beyond.

2. Enhanced efficiency and effectiveness as characterized by:

- promotion of efficiency, cost-effectiveness and optimum utilization of human, financial and physical resources;
- the need to strike a balance between participatory, consultative and collegial decision-making, and more timely, business-like decision-making;
- an enhanced utilization of information systems;
- a clear sense of accountability and limits of authority; a broad approach to job functions, an appropriate utilization of staff, and a clear definition of functional responsibility in positions of devolved authority.

3. Enhanced management capacity as characterized by:

- the need to develop a management and administrative structure that enhances and facilitates the strategic leadership role of the Vice-Chancellor;
- the promotion of the strengths within the current management structure;
- an enhanced management and administrative staff training and development capacity;
- a structure that promotes a proactive management style that demands and rewards individual initiative;
- recognition of the organizational changes that will result from the rapidly growing demands of information technology;
- the elimination of pressure points in the existing administrative structure which as a result of growth and change will become increasingly ineffective and inefficient;
- the need to develop such new functions and job specializations as shall be demanded by growth and change;
- the need to identify and develop clear career paths for current and future citizen employees of the University;
- the need to improve motivation, productivity and job satisfaction through enrichment of jobs;

- the need to ensure clarity in job functions and a proper provision of job descriptions;
- an enhanced and integrated approach to institutional planning.

The Task Force concluded its justification with the following warning of the consequences of what would happen should restructuring not be carried out:

> Growth and change have been identified as the key factors that will influence the future structure of the University. An organization that is likely to almost triple in size in the context of an increasingly complex set of internal and external demands will require structural adjustment.
>
> If structural change of the type envisaged is not addressed then the following consequences are likely to take place:
>
> 1. reduced efficiency and effectiveness within the management structures of the University;
> 2. increased pressure on decision-making and planning points, slowing down even further a process that is already straining to effectively respond to the demands placed upon it;
> 3. longer channels of communication-command and decision routes with the danger and frustrations of increased delays and distortion along those routes;
> 4. Ever-widening spans of control especially in the hierarchy of the University.

In addition to this explanation provided by the Task Force as to why it felt that restructuring was necessary, the guidelines also articulated a structural form of organizational change which involved a three-stage process of *information collection, development of revised organizational structure, and organizational development*, which finds parallels with the three-phase 'unfreeze-move-refreeze' change model of Lewin.[17] According to this model a change from an existing organizational structure to a new model, requires management to devote considerable attention to:

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[17] Lewin, K. *Field Theory in Social Sciences*. New York, Harper and Row, 1951.

- **unfreezing** the current condition, in particular highlighting how inappropriate and undesirable the current condition is and thus providing an incentive to change;
- **moving** the organization forward by suggesting a 'new Jerusalem' which will provide a vast improvement on the current condition;
- **refreezing** the new condition and eliminating the old, so as to ensure that the imperative for change identified in the previous phases is adopted and institutionalized and thus becomes the current condition.

The underlying purpose of such an approach was to:

- allay the natural fears and suspicions that are associated with any form of organizational change;
- build a common agenda for change across the University;
- facilitate the ownership of the new management structure by all members of the Institution.

This model of organizational change found form in a series of process steps where the Task Force detailed how it intended to go about its work, the various inputs that would be required as well as the eventual outcomes that would be recommended to Senate and Council. The three phases of the work of the Task Force were described in the following terms.

Box 7

Phase 1: Information collection and processing

Inputs

- Identification of the functions of Council, the Vice-Chancellor, the Vice-Chancellor's Office, and the Offices of the Senior Management Team; Senate and its sub-committees; Institutional and Academic Support Units; Academic Cost Centres and their associated committees.

Box 7. Continued

- Determination of positions of responsibility for the functions identified through the collection of job descriptions and organizational charts.
- Collating current job descriptions through a standardized job description.
- Drawing up organizational charts detailing the current management structure.
- Functions and positions of responsibility.

Outputs

- Organizational charts.
- Job descriptions.
- Phase 1 Report.

Phase 2: Development of revised organizational structure

Inputs

- Phase 1 Report.
- Workshops – how the current UB works; – how the new UB works.
- Senior Management Team, Task Force and a consultancy.

Outputs

- Mission, objectives, strategies – current and future.
- Organizational benchmarks- current and future.
- Absent, duplicated and new functions.
- Outline of new Senior Management Team.
- Revised functions and positions of responsibility; revised job descriptions.
- Revised establishment ranks and levels.
- Revised terms and conditions of service.
- Determination of cost implications.

Phase 3: Organizational development

Inputs

- Revised organizational structure.

Outputs

- Obtain approval of Senate and Council to the new organizational structure.

Box 7. Continued

- Phase out the old structure and occupy the new establishment through personnel transfer where necessary and new recruitment where appropriate.
- Prescribe a management system and style in keeping with the mission of the University and its designated culture.
- Clarify job objectives for each position based on the responsibilities identified in the job description.
- Design a suitable performance evaluation system linked to job objectives and personal development.
- Develop and cost a staff training and development programme at all levels based on the skills and abilities that will be demanded by an effective response to growth and change.
- Develop policy and procedures manuals for each office.

A full and comprehensive account of the work of the Task Force which has so far extended over a five-year period is beyond the scope of this case study, whose specific term of reference concerns the relationship between information systems and organizational development, subsequently extended to embrace strategic planning. Apart therefore from providing a general overview of the work undertaken and in particular the new organizational structure, the remainder of this section will confine itself to what the Task Force had to say about the two issues of strategy and information systems.

By the conclusion of its work in November 1993 the Task Force had presented three reports to Council. The first was in the form of the guidelines, which have been referred to previously, and which laid out the overall purpose and approach to restructuring at the University of Botswana. The remaining two reports essentially corresponded to the two phases of freezing and unfreezing as detailed in those guidelines, with the first providing a diagnosis of what was at the time the then current organizational structure, followed by a prescription which extended into the second report for a new management and administrative structure.[18], [19]

The strengths and weaknesses of the organizational structure and culture as perceived by employees of the University was reported by the Task Force as follows:

Strengths

- The staff of the University (academic and administrative) in terms of their commitment to the Institution, their willingness to confront the challenges of organizational change, their contribution to the change process, and their potential and enthusiasm to make the revised organizational structure work.

Weaknesses

- Organizational structure that inhibits the leadership role of the Vice-Chancellor;
- over-reliance on participative collegial decision-making and consultation;
- lack of clarity in job functions;
- uneven provision of up-to-date job descriptions;
- marginal use of information resources, in particular computerized databases, due to ill-defined information management functions and virtual absence of computer facilities in individual offices;
- poorly developed support staff functions;
- unco-ordinated and undeveloped approach to institutional planning;
- unclear sense of authority and accountability;
- Byzantine committee structure which fails to appreciate the distinction between policy formulation, implementation and evaluation;

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18. Task Force 1: *1st Report to Council on revised organizational structure*, 1992.
19. Task Force 1: *2nd Report to Council on revised organizational structure*, 1994.

- organizational culture which inhibits individual initiative;
- narrow approach to job functions;
- inappropriate utilization of staff;
- a reactive as opposed to a proactive and anticipatory management style;
- an unclear definition of functional responsibility in positions of devolved authority.

The prescription for change suggested by the Task Force was summarized as follows:

- Need to review and further sharpen the University's mission statement to ensure that it is in concert with the external environment and also to confirm that it is properly forming the basis for the Institution's internal operations;
- major review and rationalization of the University's committee system in order to seek a proper balance between collegiality and consensus, and hierarchy and executive decision-making;
- freeing of the Vice-Chancellor from the trivia of line management to ensure that he can effectively develop his role of institutional leadership;
- development of a major staff training and development programme to augment the management and administrative abilities of all staff in the Institution;
- retaining and revitalizing the Registrar's Department by enabling it to provide a professional service more clearly focused on the implementation and evaluation of policy rather than just the mere recording of decisions;
- the rationalization of existing functions and the creation of new ones, particularly in the Registrar's and Bursar's Departments;

- the creation of well-designed jobs that will not only serve the needs of the Institution but will also satisfy the needs of its employees;
- an organizational structure that clearly matches authority and responsibility and which firmly sets in place the necessary mechanisms of co-ordination and control;
- a more pronounced planning function which embraces the entire Institution in a single integrated planning approach and focuses on strategic as well as operational plans;
- a phased and carefully managed contracting out of the secondary functions of the University;
- a phased and carefully monitored devolution of responsibility towards Faculties (in the first instance) and in the longer term to Departments;
- the expansion of the existing functions of fiscal and budgetary control to embrace financial management and income generation;
- transparency and openness particularly through the development of the University's information and data management functions;
- a close integration of physical planning with estate management; an enhanced public relations office; and an internal audit function.

The revised organizational structure which was eventually agreed upon by Council was in consonance with the above with the exception of the retention of the Registrar's Department, which earlier the Review Commission had recommended be abolished. Despite the Task Force making a contrary recommendation that the Department should be retained and strengthened, Council determined that the original recommendation of the Review Commission was the correct one. Outlined below are the key features of the final organizational structure of relevance to this case study and as approved by Council in May 1994.

Chart 1: Vice-Chancellor's Office – positions of responsibility and reporting lines

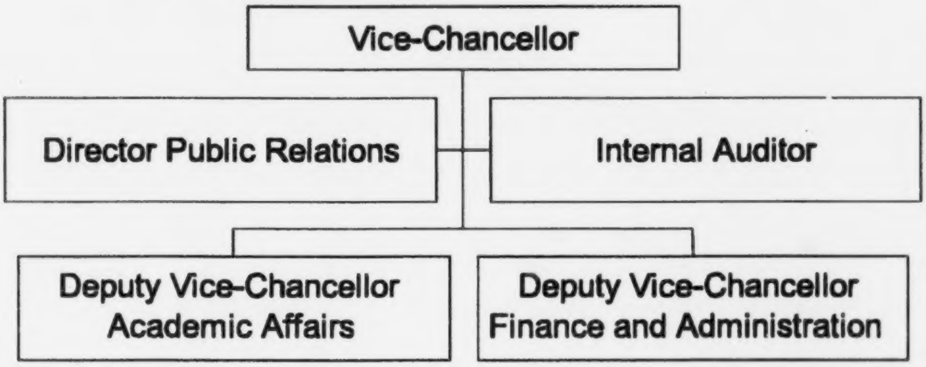

Vice-Chancellor
Director Public Relations
Internal Auditor
Deputy Vice-Chancellor Academic Affairs
Deputy Vice-Chancellor Finance and Administration

Chart 2: Office of Deputy Vice-Chancellor, Academic Affairs – positions of responsibility and reporting lines

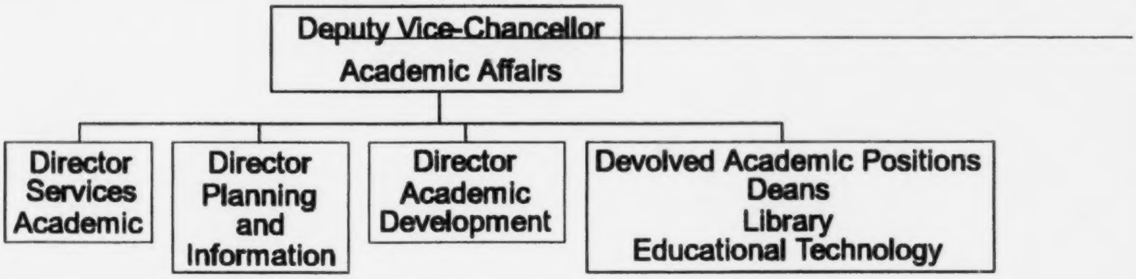

Deputy Vice-Chancellor Academic Affairs
Director Services Academic
Director Planning and Information
Director Academic Development
Devolved Academic Positions
Deans
Library
Educational Technology

Chart 3: Office of the Deputy Vice Chancellor Finance and Administration – positions of responsibility and reporting lines

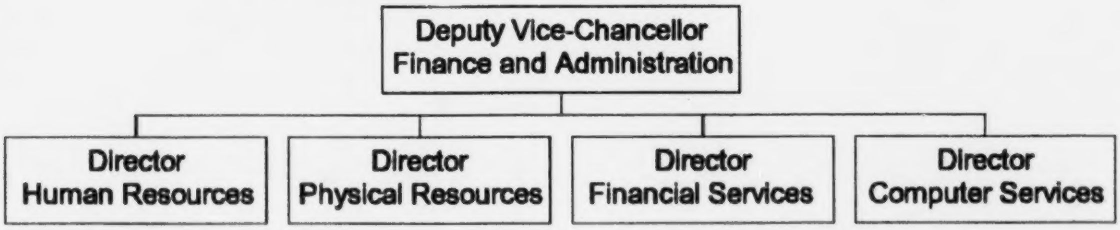
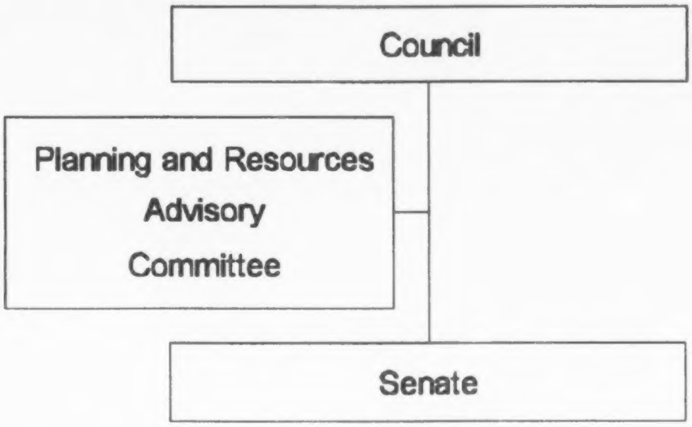

Deputy Vice-Chancellor Finance and Administration
Director Human Resources
Director Physical Resources
Director Financial Services
Director Computer Services

Chart 4: Council and Senate Joint Planning and Resources Advisory Committee



The particular concern of this case study is to see how the new organizational structure addressed the two issues of strategy and information systems. This will require us to focus attention on the role of the Vice-Chancellor, the Planning and Resources Committee, and the newly conceived Department of Planning and Information.

During the course of its initial scan of the University; the Task Force became acutely aware of the issue of the excessive burden of day-to-day work that the Vice-Chancellor seemed obliged to carry, with the office seeming too preoccupied by minutiae and an excess of committee work. Naturally this severely curtailed the opportunity for measured and considered long-term policy formulation on the part of the person who is "... the academic and administrative head and chief disciplinary officer of the University".[20] The Task Force particularly highlighted the leadership role of the Vice-Chancellor, suggesting that vision and strategic goal setting should receive a greater priority in the work of this office. The new structure accordingly sought to relieve the Vice-Chancellor by devolving and delegating responsibilities in a clearly defined manner between two new Deputy Vice-Chancellors with the portfolio of Academic Affairs and Finance and Administration respectively.

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[20] University of Botswana. *Statutes. Part II, Section 5*, 1982.

Possibly because of the nature of the job, by tradition the post of Vice-Chancellor had only been described in a cursory fashion through the University Act and Statutes and thus could be whatever the incumbent sought to make of it; this was felt by the Task Force to be an undesirable situation and so sought to entrench further the concept of strategy through the articulation of a comprehensive job description along the following lines.

Box 8

University of Botswana

Job description	**Job number**	
Job title:	Vice-Chancellor	
Division:	Administration	
Department/Section:	Vice-Chancellor's Office	
Grade:		
Reporting relationships		
Responsible to:	**Directly** Council	**Indirectly** Chancellor
Responsible for:	**Directly** Deputy Vice-Chancellor (Academic Affairs) Deputy Vice-Chancellor (Finance and Administration) Special Assistant to the Vice-Chancellor Internal Auditor Director of Public Relations **Indirectly** All subordinate staff reporting to the above	

Box 8. Continued

Job written by	**Post holder**	**Head of Department/ Division**

Date prepared/Revised

Main purpose of the job (Job summary)

1. To provide academic and administrative leadership to the University.
2. To be responsible to Council for the management of the Institution and for the efficient use of its resources, human, fiscal and capital, in compliance with the University of Botswana Act and Statutes.
3. To cultivate external understanding and support of the University.

Key functions (Tasks and activities)

1. **Planning and policy formulation**

Spearheads the continuous development and review of the mission, objectives and policies designed to achieve academic excellence in the Institution's programmes.

Communicates and promotes an understanding among all concerned of the mission of the University.

Enables the realization of the mission of the University by co-ordinating the development of its policies, plans and programmes, based on a strategic overview of the University and its environment.

Procures the resources necessary for the implementation of the University's plans and programmes.

2. **Management and fiscal control**

Provides executive leadership to the Institution through the creation and implementation of a strategic management plan.

Directs the Senior Management Team responsible for the academic, financial and administrative functions of the University, and co-ordinates the activities of the two Divisions of the University.

Oversees the implementation of systems designed to ensure sound management and fiscal control and the promotion of good order throughout the Institution.

Box 8. Continued

Oversees the procurement and allocation of resources to the various cost centres within the University.

3. Responsibility to Council

Presents the Institution's position and recommendations on various issues and problems. Proposes major policy initiatives for Council approval.

Submits reports to Council, during scheduled meetings, or as prescribed by the University Act and Statutes, on the programmes, policies, and activities of the University.

4. Responsibility to Senate

As Chair of Senate, directs the implementation of Senate decisions.

5. Committees

Committee name	*Membership status*	*Committee role*
Council	Member	Planning and Policy Formulation
Council Executive	Member	Urgent Council business
Financial Policy	Member	Finances
Human Resources Policy	Chair	Human Resources
Planning and Resources	Chair	Mission, Plan, Resources
Staff Appointments	Member	Staff appointments
Senate	Chair	Academic policy
Senate Executive	Chair	Senate Steering
Senior Management Committee	Chair	Policy co-ordination

6. External liaison

Represents the University externally in order to promote awareness and an understanding of the University's mission, objectives, policies

Box 8. Continued

and programmes and to be accountable for the resources entrusted to it.

Undertakes any other related duties as required in the general interests of the University.

Qualifications

1. Background knowledge

Excellent record of scholarship, teaching, and service.

Extensive knowledge and experience of university systems.

Extensive experience in universities at a senior management level.

2. Skills and abilities

Ability to develop a vision and direction for the Institution.

Ability to interpret and promote the University's key academic purpose.

Ability to stimulate and encourage new ideas and developments through motivation and support for staff and students.

Superior management, communications, interpersonal and public relations and negotiation skills.

Capacity to influence and persuade and to build coalitions and networks.

Performance measures

1. Existence of an unambiguous mission statement, and policies, plans and procedures that complement the Institution's objectives.
2. Clear understanding of the University's objectives by staff, students and the community at large.
3. Availability of adequate resources and their efficient and effective allocation and utilization.
4. High calibre staff appointed and high academic and administrative standards maintained.

Box 8. Continued

5. Harmonious relations between academic and administrative divisions, departments and staff of the University.
6. High standards of behaviour among staff and students.
7. Practical, effective and acceptable recommendations to Council; informed Council and Senate decisions and prompt implementation of same.

Responsibilities

Budget: **Capital** **Recurrent**

Staff

Plant and equipment

Students

In order to further consolidate the concept of strategy within the organizational structure and to provide support to the Vice-Chancellor in fulfilling the role of chief strategist, the Task Force included in the revised University Committee structure a Planning and Resources Committee providing an advisory function to Senate and Council. As earlier evidenced in the Report of the Strategic Planning Workshop, long-term strategic planning (as in many universities) had been virtually ignored in the University of Botswana. While the University had been quite effective in producing plans that looked three-five years ahead, there had never existed a longer-term strategic plan. In addition the Task Force contended that the strategic view should be presented to Council from Senate to ensure that the academic priorities of the University remain to the fore, mediated through a joint Council/Senate committee that would consider the planning recommendations of Senate against the long-term strategic perspective while, at the same time, putting in place a mechanism for co-ordinating the relative resource needs of the Academic and Administrative Divisions. The familiar response in most University systems which the Task Force adopted was the establishment of a Planning and Resources Committee playing an advisory role for Senate and Council and performing the following broad functions:

- Review of the University mission, strategy and objectives and advising Senate and Council accordingly.
- Review of planning submissions to ensure that they are appropriate and mutually consistent with the University's mission, strategies and objectives, and advising Senate and Council accordingly.
- Evaluate planning submissions and recommend funding priorities to Senate and Council in accordance with income and expenditure estimates.

The final part of the organizational structure that we wish to focus on for the purposes of this case study is the Department of Planning and Information. Although when recommended by the Task Force as a new function, the lack of a Planning and Information department had been recognized for some time as a major gap in the existing structure, work on preparing previous University plans, the deliberations of the Academic Planning Committee, the ideas generated by the Strategic Planning Workshop, and of course the experiences gained during the initial implementation of ITS, all pointed to the need for developing a function that would embrace both planning and information. The key functions of the department were identified in the Consultancy Report[21] commissioned by the Task Force, as follows.

- Providing support to the Institution, but in particular the senior management team, in developing and evaluating institutional plans.
- Providing analysis and decision support to the Institution, but in particular to the senior management team.

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[21] University of Botswana, *Task Force 1: Restructuring the University Administration*, Consultancy Report, 1993.

- Directing, co-ordinating and managing the Institution's computerized administrative information systems.

The consultancy further rationalized the creation of the Department on the following basis:

Box 9

Rationale for the creation of a Department of Planning and Information

Task Force 1: Consultancy Report, May 1993

Under the new structure the Vice-Chancellor is charged with the responsibility for university-wide planning which will involve the articulation of a vision of where the University should go, the development of a mission, a clear set of objectives, and a strategy as to how the University is to achieve these goals. At the level of the Deputy Vice-Chancellors, the planning function involves the translation of the strategic plan into operational reality, carried out through the various Directors and in conjunction with the heads of each individual cost centre throughout the Institution. Such a process is very complex and requires a considerable amount of co-ordination *[which will be achieved through the Director of Planing and Information].*

The second function of the Office will be the provision of analysis and information to support the planning function and of decision support to senior management and the Institution as a whole. For example, the University may be on the verge of launching a major building programme to serve a particular academic area, unaware of the fact that there is likely to be a decline in student enrolments in that area commencing at the time when the new structures are scheduled to be occupied. The Office of Planning and Information will feed such information into the planning process and, further, will be carrying out analysis as to the actual cause and consequences of the enrolment

Box 9. Continued

decline. Armed with the results of such a study, the University may decide to shelve the plans for the building or take a particular action to boost enrolment in the area. Whatever the outcome, more informed decisions should flow from a better knowledge of the situation.

Naturally a major source for such knowledge will be the University's own information systems, particularly the computerized database (ITS) that was purchased in 1990 and is still in the process of implementation. ITS is a comprehensive integrated database covering student records, student debtors, finance, personnel, payroll, buildings, space and assets and is a primary tool for the efficient management and planning of the Institution. As the primary user of all the records in the database (student/finance/administration) the Planning and Information Office will be responsible for planning, directing and co-ordinating the implementation, management and utilization of the system.

With regard to this latter function, the Task Force determined that, based upon the experiences that the University had through ITS implementation, there was a need to make a clear distinction between the management of ITS as an information resource (Planning and Information) from the management of the information technology that facilitates its use (Computer Services). In addition the Task Force was fully aware of the stalled implementation of the ITS system and the necessity to establish a sound management framework if the benefits of the system were to be fully realized.

The realization of the justification and ideas for the Planning and Information Department, which neatly drew together many of the experiences of those involved in the strategic Planning initiative as well as the initial ITS implementation, found concrete form in the following job description of the Director.

Box 10

University of Botswana

Job description **Job number**

Job title: Director (Planning and Information)
Division: Academic Affairs
Department/Section: Planning and Information
Grade:

Reporting relationships

Responsible to:

	Directly	**Indirectly**
	Deputy Vice-Chancellor (Academic Affairs)	Vice-Chancellor

Responsible for: All subordinate staff

Job written by **Post holder** **Head of Department/ Division**

Date prepared/revised

Main purpose of the job (Job summary)

To plan, direct and co-ordinate the institutional planning process and to provide institutional analysis and decision support to senior management.

Key functions (Tasks and activities)

1. **Policy formulation**

Develops a policy framework for the creation, implementation and evaluation of strategic, institutional and academic plans.

Develops a policy framework for the creation, implementation and evaluation of academic resource models, together with an evaluation of the consequential changes in non-academic areas.

Develops a policy framework for the development and management of the Institution's information systems.

Box 10. Continued

2. Departmental management

Recruits staff into the Department and manages them in accordance with University policies and procedures.

Co-ordinates the provision of Planning and Information throughout the University by establishing appropriate communication channels and chairing a weekly Departmental meeting.

Oversees the implementation of procedures for the total range of planning and information functions within the Department by providing professional guidance to subordinate staff.

Sets performance objectives and targets for the Department in conjunction with subordinate staff.

Prepares and reviews departmental budget, manpower plans and estimates in consultation with the Deputy Vice-Chancellor (Academic Affairs). Monitors expenditure to ensure plans and budgets are not compromised.

Supervises the activities of subordinates and takes corrective action in accordance with the laid-down procedures, rules and regulations.

3. Service and advice

Planning

Assists the Vice-Chancellor to develop and review on a regular basis the mission statement, objectives and strategic plans of the University.

Assists the Senior Management Team and Council to develop and review on a regular basis the institutional plan by co-ordinating and integrating the individual plans of the various institutional cost centres.

Assists the Deputy Vice-Chancellor (Academic Affairs) and Senate to develop and review on a regular basis the academic plan of the University and the development of academic resource models.

Acts as the University management's adviser on matters relating to strategic, institutional and academic planning, including consequential changes in the non-academic areas as well as academic resource models and provision.

Box 10. Continued

Institutional analysis and decision support

Undertakes both at the request of Senior Management and on his/her own initiative, studies which will serve the purpose of better decision-making in the University.

Prepares background papers in relation to policy formulation and planning as requested by members of the Senior Management Team.

Information systems

Plans, directs and co-ordinates the administrative information systems (ITS) and provides support and advice as to the utilization of the system.

Plans, directs and co-ordinates improvements to the administrative information systems, ensuring that the content of the systems is in accordance with the needs of its users.

Designs and implements procedures for using the administrative information systems, including the maintenance of confidentiality.

Acts as the University management's adviser on matters relating to administrative information systems.

4. Monitoring

Monitors the implementation of institutional plans and alerts appropriate officials when corrective action is necessary.

Monitors the allocation and use of academic resources to ensure compliance with policies, plans and procedures.

Monitors the implementation and use of administrative information systems to ensure compliance with policies and procedures.

5. External liaison

Liaises with government departments, private and parastatal organizations, training institutions and donor agencies on issues relating to planning and information systems.

Box 10. Continued

6. Committees

Planning and Resources Advisory Committee Secretary	
Academic Planning Committee	Secretary
Academic Policy Committee	Member
Senate and Senate Executive	Member
Academic Affairs Management Committee	Member

Undertakes any other related duties as required in the general interests of the University.

Qualifications

Background knowledge

A university degree in either an academic or professional discipline.

Sound knowledge of university management systems and the environment in which they operate.

Experience in tertiary educational planning and the implementation of integrated database systems.

Ten years of university experience as a faculty member or as a university administrator, three of which should have been at a senior level.

Skills and abilities

Superior analytical skills and the ability to conceptualize and undertake projects successfully.

Excellent management, human relations and communication skills.

Excellent understanding and familiarity with the use of database information systems, particularly in relation to financial and administrative applications.

Performance measures

Existence of a policy framework for the creation, implementation and evaluation of the institutional plans and academic resource models.

Box 10. Continued

Effectiveness of the management of the University's administrative information systems and the level of satisfaction of the users.

The number of occasions in a given year when major breakdown of the information systems occurs.

Effectiveness and comprehensiveness of the studies carried out (or commissioned) into aspects of the University policy making or management.

Effective creation or commissioning of internal surveys and the prompt and accurate compilation of relevant external questionnaires and analysis.

General level of satisfaction of senior management with the service and quality of advice provided in support of decision-making.

High staff morale and productivity and low turnover.

Limits of authority

1. **Policy**

   The duties of the post holder in relation to policy formulation involve the provision of advice and not executive action. Limitations on authority are therefore not applicable.

2. **Management information systems**

   The post holder cannot change systems or applications or withdraw a service without the agreement of other directors concerned. Failing such agreement the matter shall be settled at the level of the Deputy Vice-Chancellor(s).

Responsibilities

Budget: **Capital** **Recurrent**

Staff

Plant

Equipment

Summary conclusion

The conclusion of this case study outlines a number of key issues which the writers feel are of importance to senior management in other institutions who intend to initiate a programme of organizational change of the type attempted by the University of Botswana.

1. Introducing a new computer-based information system into an institution is not an isolated stand-alone project. Inevitably a number of key questions will be raised that will require a fundamental reassessment of how the organization functions. These questions have to be dealt with by senior management, as they require major decisions to be made as to what organizational changes will be needed to maximize the hoped for benefits from the information system. The need to link the introduction of a computerized information system with organizational change has been central to this case study. Neither can be attempted singly, and one of the key roles of senior management is to ensure a strategic fit and alignment between the two.

2. The original conception of ITS was that it would be used to automate functions. By the conclusion of the work of the ITS project team, the initiation of the Information Systems Management Committee and the detailed work undertaken by the Task Force this view had been radically altered, with ITS being perceived as a tool for organizational transformation as well as a key strategic resource.

3. The framework for implementing a computerized information system should address the following key issues:

- **Strategy:** determining where the institution wants to go and how it anticipates getting there. Once this has been carried out (and articulated through an appropriate vision, mission, strategic goals) it should be complemented by a parallel and integrated set of strategies dealing with organizational and information system issues.

- **Planning for change:** one of the lessons learned from this case study is how seemingly unrelated decisions – the Academic Planning Committee discussion on Strategic Planning; the decision to automate the Institution's information resource; the invitation to an external Review Commission – can unleash unexpected consequences and dramatic and unexpected changes which impact throughout the entire institution. Proper planning which, inter alia, must focus on how that change is to be managed is an essential. With hindsight the University of Botswana would have profited from conceiving a holistic programme of organizational change which would have sought to integrate the strategic planning initiative, the work of Task Force 1, and the implementation of ITS.
- **Project management:** the key success story of the case study has been the University's ability to harness the talents of various individuals through project teams, task forces, working groups, complemented by an appropriate use of external resources. The Strategic Planning initiative was managed by a small group of committed University staff who, under the direction of the Vice-Chancellor, commenced the process of getting the Institution to rethink itself. The ITS project team provides a similar example of a horizontal working group drawn together from across the University to successfully implement the initial phase of the computerized information system project. And, finally, possibly the most successful accomplishment was the Task Force, which not only articulated a new management structure for the Institution, but also negotiated its acceptance through the various staffing structures prior to final acceptance by Council. Another key feature of all these efforts was the judicious use of external resources, with a variety of external consultants and workshop participants being used at strategic points in order to drive forward the process of organizational change. The final element that has been critical to the degree of success achieved has been the degree of involvement of University staff. Despite the immense difficulties that arose in a major change programme, detailed in this case study, the inevitable resistance to change was always overcome

by directly involving those likely to be affected by change, through the establishment of formal liaison procedures, and an open approach that permitted those likely to be affected by change being provided with the means to influence the decisions that were being made.

With a new organizational structure and the concomitant necessity to re-articulate every function, task and job within the Institution, the opportunity naturally presents itself to reintroduce ITS to the University. This will require the University to revive the project team that initially pioneered ITS in the University, under the leadership of the Director of Planning and Information, and to restore the Information Management Systems Committee chaired, this time, by the Deputy Vice-Chancellor (Finance and Administration). The central task of these two bodies, the former concerning itself with project management and the latter with strategy and policy, will be to ensure a fit between the ITS information system and the recently conceived and emerging organizational structure. It is this necessity for an alignment of the information system and institutional management strategies that has proved to be the essential lesson for the University during its programme of organizational change and which provides an object lesson for senior management at other tertiary-level institutions which may be contemplating similar changes in their management practices.

It is not the intention of this case study to articulate an information systems strategy for the University or to set out the policies and process steps that should be followed. However a few simple pointers are provided that should enable the University to refocus its future efforts in ensuring a tight fit between its management structure and its administrative information system. The initial work of the project team and the subsequent carry over of that work by various functional departments has witnessed considerable energy expended which has not necessarily been matched with a corresponding advancement in making ITS an integral part of the working of the University. The key to ensuring that this does not recur during the re-implementation of ITS is from the outset to identify the factors critical for success, commonly referred to as Critical Success Factors (CSFs). The value of using the CSF approach is that its central focus is management rather than the technical issues involved in implementing and managing the organization's information system.

The Critical Success Factor approach helps an organization to identify the key issues that must be successfully addressed. In addition, it provides key performance indicators that can be used as a barometer of success. Critical success factor analysis can be applied to an organization as a whole, to a division, a function, or, as will be illustrated in this case study, to the evaluation of a management information system. A typical CSF study seeks to identify an organization's principal objectives and then attribute to each objective a critical success factor and an objective measure of whether the CSF is being achieved. Critical success factors focus on those aspects of an organization, system, function, or project that must be right if success is to be achieved, even if other aspects are not functioning optimally. If the critical success factors are not correct, failure is the inevitable outcome. The anticipated benefit from applying this approach to the development of this case study is that it will permit senior management to be directly involved in developing the information systems strategy for the institution in order to assist in the enunciation of a clear vision, focus and alignment between the future planning of the management information system and the successful realization of the University's strategic ambitions.

As a conclusion to this section of the case study, we propose below a critical success factor analysis for the University of Botswana in relation to the planning and management of its management information system. Although the analysis furnishes only a preliminary review, it is nevertheless suggestive of the type of issues that the University senior management needs to consider in the future when it revisits the implementation of ITS and is illustrative of the approach and the type of issues of which other institutions, embarking for the first time on similar information systems projects, need to take cognizance.

Box 11. University of Botswana – Management Information System critical success factors and strategic alignment

Institutional management strategy	Management information systems strategy	Alignment task
Institution building To ensure the development of an institutional capacity that will *inter alia* cope with the increasingly complex demands that will in future be placed on the University by a rapidly changing and increasingly turbulent external environment.	*Vision and mission* By recognition that the management information system has a strategic role with the capability to significantly influence the achievement of the University's objectives.	*Management* Through the adoption of a centralized strategic management perspective for the management information system under the direction of a member of the senior management team, with overall responsibility for setting the strategic information systems goals and ensuring that the management information strategy is in consonance with the Institution's strategic aims and objectives.
Enhancing efficiency and effectiveness To ensure the development of an institutional capacity that will promote the efficient, effective and optimum utilization of resources and in particular will seek to enhance the utilization of information systems.	*Opportunities and benefits* By a recognition that information systems can deliver enormous potential benefits to the University, which requires a response from senior management that looks beyond technology and focuses on the utilization of information systems to enhance service quality and staff productivity in line with the broader institutional strategies.	*Auditing and monitoring* Through the establishment of an ongoing post implementation evaluation that focuses not just on technical issues but considers the harvest of benefits *v.* those anticipated; the unexpected benefits that may have occurred and to what extent they have been properly exploited; what new opportunities are likely to emerge and how the Institution should take advantage of them.
Enhancing management capacity To ensure an institutional capacity that will *inter alia* promote and encourage a proactive management style and in particular is responsive to the growing demands of information technology.	*Change* By recognition that the introduction of the information system into the organization will necessitate a new organizational culture necessitating a major commitment to organizational design and the redefinition of functions, structures, work processes and jobs.	*Alignment* Through the development of an information systems strategy linked to the overall goals of the Institution and intimately aligned with the management strategy. Evidence of an ongoing organization-wide management review and diagnosis and a documented process of organizational change that has been understood and accepted throughout the Institution. Working groups, established to reinforce the necessity of change and to implement the necessary transformation, would be indicative of what is necessary to ensure a strategic fit between the information system and the institutional management processes.

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The various aspects of organizational change described in this case study are still ongoing at the time of writing. The University is currently in the process of drawing up its institutional plan for the forthcoming planning period, and already it is evident that much of the thinking of the Strategic Planning Workshop has started to penetrate the planning submissions that have been submitted. The process of organizational restructuring is still ongoing, with Phase 2 of the Task Force Guidelines nearing completion, with the new jobs in the structure in the process of being graded by an external job evaluation specialist, prior to them being occupied some time from 1998 onwards. And, finally, once the new organizational structure is fully staffed there is every anticipation that the ITS project implementation, which has naturally lain fallow pending the outcome of restructuring, will undoubtedly be resurrected and a full and comprehensive implementation of the system accomplished. This will thus bring to a conclusion a major programme of organizational change which will have spanned a decade of effort but will, it is anticipated, ensure that the University is in sufficient shape to meet the challenges of the next century.

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The book

At the beginning of the 1990s the University of Botswana embarked on a series of organizational change strategies. In a 21-month period, from April 1989 to January 1992, the university launched three separate initiatives to revitalize the institution and to ensure its readiness to meet the future needs and aspirations of Botswana. These initiatives consisted of: the organizing of an external Review Commission to undertake a comprehensive institutional analysis; the acquisition of a computerized administrative information system with complementary technology; the initiation of a strategic planning process, through a Strategic Planning Workshop, and of a comprehensive 'root and branch' exercise to articulate a new organizational structure.

This case study seeks to provide an account of these three initiatives, to provide an evaluation of the experiences of those involved, and to make suggestions that will be of assistance to other institutions that decide to embark on a similar programme of organizational change.

The authors

Richard Neill is Senior Lecturer in the Department of Library and Information Studies at the University of Botswana. He has been a key member of both the Management Information Systems Committee that dealt with the implementation of the university's ITS system and the Senate task force which laid the foundation for the current development of the institution's revised organizational structure. Since 1998 he has been seconded to the Office of the Vice Chancellor specifically to deal with planning issues and has so far played a key role in developing the university's strategic plan.

Thabo Mokoena is Senior Lecturer in the Department of Chemistry at the University of Botswana, which he headed from 1993 until 1998. He has chaired, and continues to chair, a number of university committees dealing with key matters of governance within the university, including the Senate task force on the re-organization of the management structure of the institution and the ensuing Vice Chancellor's working group on the revision of the university statutes. Since 1998 he has been chairperson of the Vice Chancellor's working group on the establishment of a medical school at the University of Botswana.

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